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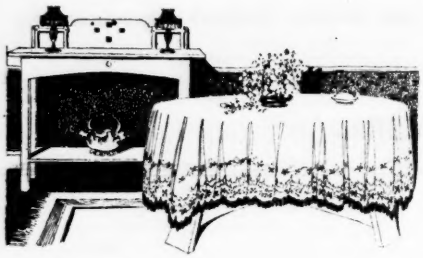

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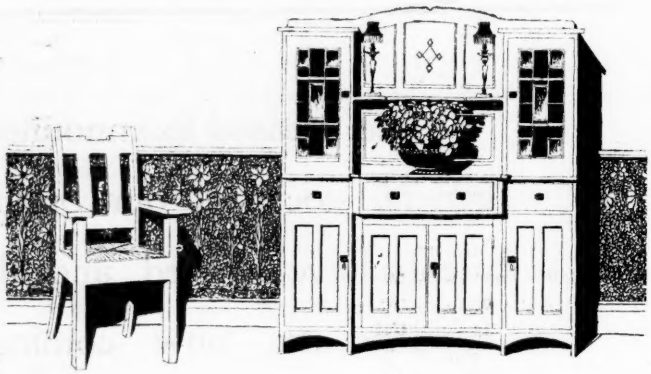

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EDUCATION NUMBER.

Public Health Services.

I.

THE COMMONWEALTH GOVERNMENT SERVICE.

CONTRIBUTED BY SPECIAL REQUEST BY THE DIRECTOR-GENERAL OF HEALTH FOR THE COMMONWEALTH.

At the various Federal conventions at which the constitution to be adopted as a basis for the federation of the Australian States was under consideration, it was generally recognized as a result of the representations made by the executive heads of the various State health departments that quarantine was a function essentially belonging to Commonwealth administration. Quarantine was, therefore, adopted as an integral part of the constitutional activities of the Commonwealth.

The Commonwealth powers in this direction were wholly contained in the one word "quarantine," as were the spheres in which the Commonwealth had constitutional authority to legislate, no qualification of this word being embodied in the constitution.

In 1904 the Commonwealth Government invited the State Governments to send delegates to a conference to discuss the form which the administration of quarantine should take. After deliberate consideration of the various features the first *Quarantine Act* was passed in 1908.

In order to consider further the details of administration after the passing of the *Quarantine Act*, another conference was convened by the Prime Minister in 1909.

Shortly after this, Dr. W. P. Norris was appointed Director of Quarantine, which office he continued to hold until 1913 when Dr. J. H. L. Cumpston was appointed.

During the first stages of the administration of the *Quarantine Act*, the State health departments acted as local agents for the Commonwealth department, but for various reasons this arrangement was terminated in five of the States, Tasmania being the only State in which this arrangement now continues. In the other States a whole-time Commonwealth Chief Quarantine Officer controls the administration of the *Quarantine Act* in his State.

The functions performed under the *Quarantine Act* were primarily those of maritime quarantine. The occurrence, however, of the small pox epidemic in 1913 and of the influenza epidemic in 1918-19 involved the careful consideration of the relative spheres of the States and the Commonwealth in respect of inter-State migration in the presence of an actual or threatened epidemic and, by a process of inevitable demonstration, it became clear that the Commonwealth authority was the only authority which could satisfactorily control the situation under these conditions.

In other directions other functions have been imposed upon the Department from time to time. For example, the control of venereal diseases in the mercantile marine, the control of a Federal subsidy for the treatment of venereal diseases by the States, the inspection of vessels in the mercantile marine under the *Navigation Act*, the control of bilharziosis, malaria and other infectious diseases amongst returned soldiers and other similar public health functions.

In 1915 moreover an important development was decided upon. In the early stages of the great war it became clear that interference with the maritime traffic of the world placed Australia in a dangerous situation. Antitoxins, serums, etc., which must be considered as vital essentials to the economic life of a community, were almost unobtainable and in view of the possible risk of Australia being isolated in the event of another war, the Commonwealth Government decided that it was important that Australia should be self-contained in the matter of production of these essential biological products. The Commonwealth Serum Laboratories were established as the outcome of these considerations and an extensive and successful institution is now in full working order.

At this institution the whole marketable range of biological products used in the diagnosis and treatment of human diseases is prepared and the laboratories form by far the most complete bacteriological establishment in Australia.

Various considerations, principal among which were the resolutions of the Australasian Medical Congress at Brisbane, have from time to time impressed upon the Commonwealth Government the importance of the health functions which might be discharged by the Commonwealth without infringement of the constitutional rights of the various States. After mature deliberation it was decided by the Commonwealth Government to extend the Quarantine Service into a fully established Department of Health. This Department came into existence on March 7, 1921, and it will be concerned with a wide range of functions in direct and indirect relation to the health of the community.

At the commencement it is proposed to re-organize the tropical services of the Commonwealth and to investigate more extensively than it has hitherto been possible the relative importance of the various factors which affect or may be expected to affect the health of white races resident in tropical Australia, special attention being paid to the conditions under which women have to carry on ordinary domestic affairs.

It is also proposed to subsidize or establish public health laboratories throughout Australia, with the object of bringing within the range of the medical practitioners in country districts those exact methods of laboratory diagnosis which are essential to successful diagnosis and treatment of disease.

Another important phase of work which will be taken up by the Commonwealth Department of Health, will be the investigation of industrial hygiene on an inter-State scale, while, as opportunity offers

from time to time, the investigation of fundamental epidemiological factors with the object of determining the direct and indirect causes of epidemic diseases in Australia will be investigated in conjunction with the States.

The work of the Hookworm Campaign will become an integral part of the functions of the Commonwealth Health Department in association with the International Health Board.

The type of medical officer most suitable for the work of this Department is a young, mentally and physically active graduate, who is attracted less by the prospect of making money than by the prospect of doing efficient work on a large scale and in a direction which would benefit the public.

There is a fascination for those who can take sufficient interest in this public health work, which exceeds anything that private practice can offer.

The prospect, for example, of locating, treating and curing 160 cases of bilharziosis amongst returned soldiers and thus removing a definite menace to the community, offers to the right type of man a prospect which is exceedingly attractive. When to this is added the reflection that this piece of work is now, with the exception of a residual ten cases or so, complete, it is realized that with the application of this principle to the other diseases which are seriously affecting national development, the young medical graduate who wishes to do some concrete work on a large scale, can ask for nothing more satisfying.

The medical graduate is accepted at any age about 25 and is encouraged and offered facilities for the completion of his Diploma of Public Health at either Sydney or Melbourne University. The Diploma of Public Health is essential for promotion to the higher administrative positions.

A recent medical graduate, about to select the department of medical practice to which he will devote himself, will be well advised to consider the probable future relationships between preventive medicine and therapeutic medicine. There appears to be no doubt that in the near future, preventive medicine must become one of the most important and probably the most important of the branches of medical science. It is evident that the Commonwealth Department of Health will play a very large part in determining the direction of this development.

II.

THE PUBLIC HEALTH SERVICE OF NEW SOUTH WALES.

CONTRIBUTED BY SPECIAL REQUEST BY THE DEPUTY DIRECTOR-GENERAL OF PUBLIC HEALTH OF NEW SOUTH WALES.

The care of the public health in New South Wales is vested in local authorities who execute the *Public Health Act* under the control and supervision of a central authority. Within municipalities the municipal council is the local authority and outside municipal areas the duties of a local authority are performed either by the shire councils or by persons or bodies specially appointed.

The constitution of the central controlling authority is not the same in all the Australian States. In New South Wales the powers and duties of control are exercised by a Board of Health consisting partly of prominent medical practitioners and partly of laymen. All the members of the Board are nominated by the Government. The President of the Board is a Government official and a permanent head of this branch of the Department of Public Health. There is also a ministerial head, known as the Minister of Public Health, who occupies a seat in the Cabinet and is responsible to Parliament for his Department.

The State possesses as the basis of its public health machine a *Public Health Act*, framed more or less roughly upon the model of the English *Public Health Act* of 1875, but varying widely from the model in many directions to meet the special needs of a young and sparsely populated country or to satisfy the Australian taste for experimental legislation. Many useful provisions for the control and safeguarding of the public health are, however, to be found in legislative enactments outside the *Health Act*, more particularly in the *Local Government Act*. There is a strong tendency throughout Australia to control sanitation by means of by-laws and regulations which, owing to their flexibility, are specially adapted for this purpose. Comparing the public health legislation of the different Australian States it will be found that that of New South Wales is the most conservative in type and the most cumbrous to administer, the latter fact owing in part to its being scattered among many different Acts of Parliament which in other States have been consolidated with the *Public Health Act*.

The executive personnel employed in the public health service consists of medical officers of health and sanitary inspectors. The exact titular designations of these officers vary slightly in the different Australian States, but the duties discharged by them are best indicated by the titles given above. The position of Medical Officer of Health differs in New South Wales from the same position in some other Australian States. In New South Wales local authorities cannot appoint Medical Officers of Health. These officers are appointed by the Government to populous groups of districts. They devote the whole of their time to their duties, are sanitary experts and receive salaries which are more or less commensurate with the importance of the duties they perform. In the beginning it was intended that all the more thickly settled districts of the State should be provided with these officers, but this ideal is still unfulfilled and only three have so far been appointed to the most populous areas. The remainder of the State relies for expert advice in public health matters upon the professional staff of the central Department of Public Health, the medical officers of which visit country towns when required.

The Department of Public Health includes two distinct branches, one directed by the Board of Health and the other by the Director-General of Public Health. The functions of these two branches are closely co-ordinated and the Director-General is *ex-officio* President of the Board of Health, but the

spheres of action of the two branches are separate and on the whole well defined, though the same staff serves both. The functions of the Board are administrative and executive under several statutes: *Public Health Act, Dairies Supervision Act, Noxious Trades Act, Diseased Animals and Meat Act.* It discharges important advisory duties towards the Minister of Public Health and the Government and it exercises supervision over the manner in which local authorities carry on their public health functions. The Director-General of Public Health controls the multifarious business of the medical department of the public service, including the medical examination of candidates for admission to the service and of candidates for retirement on the ground of ill health, medical, police and gaol work, the medical care of aboriginals, the administration of State hospitals and public vaccination. He also has control of the Government Analyst's branch and the State Microbiological Laboratory.

The Department of Public Health as an organized branch of the government machinery of the State is of comparatively modern growth.

As early as 1839 the question of public health, as it was then understood, received attention at the hands of the administrative authorities, for we find in that year Dr. Arthur Savage, a Naval surgeon, referred to as the "health officer." The post appears to have been continued with successive holders. It must be understood, however, that the full title of the position was "Health Officer for Port Jackson" and that the duties were confined to examination of persons arriving by oversea vessels and the carrying out of the system of maritime quarantine imposed by the statutes passed in the reign of William IV. and in the early Victorian period.

In July, 1881, in consequence of the existence in Sydney of a serious epidemic of smallpox, the Colonial Treasurer appointed a board of advice or Board of Health to advise with and assist the Government in preventing the spread of that disease. The Board consisted of the Mayor of Sydney, the Under-Secretary for Finance and Trade, the Inspector-General of Police, the Health Officer for Port Jackson (Dr. H. G. Alleyne), the Colonial Architect and Mr. (afterwards Sir) Alfred Roberts, M.R.C.S., who acted as the executive member. The first meeting was held almost at once and throughout the remainder of the year the business dealt with was the control of smallpox, frequent meetings being held, often at intervals of only two or three days. The Board (as then constituted) ceased to exist on December 31, 1881, and was succeeded by a new board appointed under the provisions of the *Infectious Disease Supervision Act, 1881.*

Under this Act the Board consisted of not less than six persons; its members were those comprising the superseded board of advice, with the addition of Drs. George Fortescue, H. N. MacLaurin, A. A. West and C. K. Mackellar. They held their first meeting on February 6, 1882. Shortly afterwards the first Secretary, the late Mr. Edmund Sager, was appointed.

Dr. (now Sir) Charles K. Mackellar succeeded Dr. Alleyne as Health Officer in July, 1882, and twelve months later was formally appointed President of the Board. Before then the practice at meetings seems to have been for the members to vote one of their number to act as chairman. Subsequent successive presidents of the Board were Dr. (afterwards Sir Normand) MacLaurin, Dr. F. Norton Manning, Professor (afterwards Sir) Thomas Anderson Stuart. All of these gentlemen were part-time officers and discharged the duties of President of the Board of Health in addition to those of other public offices or private practice.

In 1896, however, on a re-organization of the public service for the first time a full time officer (Dr. J. Ashburton Thompson) was appointed President of the Board with the rank of permanent head of the Department.

The passing of the first *Public Health Act* in 1896 further re-constituted the Board, for it provided that on the day when it took effect all members (except the President) should vacate their seats and that the new Board should consist of not less than seven nor more than ten members, including the President, of whom four should be legally qualified medical practitioners.

Dr. Thompson retired from office in 1913, his place being taken by Dr. R. T. Paton, the Inspector-General of Charities, whose Department was amalgamated with the Health Department, and whose official title was changed to that of Director-General of Public Health.

Since the amalgamation the Health Department, which previously possessed complete administrative control only over the Coast Hospital (the metropolitan hospital for infectious diseases) and the David Berry Hospital, at Berry, now administers a number of hospitals and institutions which were originally asylums for the aged and chronic invalids, but many of which have developed or are developing into true hospitals with medical and surgical activities and regular medical staffing. The salaried staffing of these institutions is indicated in the following list:

Department of Public Health, Medical Establishment.

Head Office (Administrative):
- Director-General of Public Health.
- Deputy Director-General of Public Health.
- Assistant Medical Officer.
- Government Medical Officer and Police Surgeon.
- Second Government Medical Officer.
- Micro-biological Laboratory.
  - Principal Micro-biologist.
  - Assistant Micro-biologist.
  - Second Assistant Micro-biologist.

Medical Officers of Health:
- Metropolitan District.
- Hunter River District.
- Broken Hill (part-time).

Coast Hospital:
- Medical Superintendent.
- Assistant Medical Superintendent.
- Senior Assistant Medical Officers (3).
- Assistant Medical Officers (5).

Rookwood State Hospital and Asylum:
Medical Superintendent.
Assistant Medical Officer.
Junior Resident Medical Officer.
Liverpool State Hospital and Asylum:
Medical Superintendent.
Newington State Hospital and Asylum for Women:
Resident Medical Officer (female).
Waterfall Sanatorium for Consumptives:
Medical Superintendent.
Assistant Medical Officer.
Lady Edeline Hospital for Babies:
Visiting Medical Officer (part-time).
State Asylums for Aged Men, Parramatta:
Visiting Medical Officer (part-time).

The whole of the personnel on this establishment is composed of civil servants, excepting in the case of part-time officers. These latter are attached to establishments where the whole time of an officer could not be profitably utilized and are medical practitioners already engaged in private practice in the neighbourhood. The recruitment of this staff is conducted through the Public Service Board. The senior positions are filled by the promotion of junior officers. Among the medical officers of health and the officers of the administrative staff a diploma in public health is required. For admission to the bacteriological staff evidence of some special bacteriological training is a desideratum.

Junior medical officers on the staffs of the State hospitals are selected from young medical graduates preferably with some experience on the house staffs of metropolitan hospitals.

In every town in New South Wales there is a Government medical officer. These officers (outside Sydney) have no pay and no regular duties or legal powers. They have, however, the first call on any Government (police or other) medical work within their district, such as giving evidence at coroners' inquests, attending on sick prisoners in lock-ups and gaols, etc. Occasionally they are called on by the Health Department to give a report in some special case. For work done they are paid in fees. The title carries some prestige and is always sought after. The appointment is usually conferred upon the medical practitioner who has been practising longest in the town, unless he is the subject of some physical or other disability.

III.

THE EVOLUTION OF PUBLIC HEALTH ADMINISTRATION IN VICTORIA.

CONTRIBUTED BY SPECIAL REQUEST BY THE CHAIRMAN OF COMMISSION OF PUBLIC HEALTH OF VICTORIA.

On July 1, 1851, that portion of New South Wales known as the Port Phillip district came into separate legislative existence as the Colony of Victoria.

Pending the passing of sanitary legislation by the Legislative Council of Victoria the sanitary laws of New South Wales were in force in the newly created colony. The administration of these laws was in the hands of the Colonial Secretary and his adviser was the Chief Medical Officer.

On December 19, 1854, *An Act for Promoting the Public Health in Populous Places in the Colony of Victoria* came into force (18 Vic., No. 13). This Act created a Central Board of Health to consist of not less than 3 or more than 5 members and to be appointed by the Lieutenant-Governor in Council.

On February 21, 1855, the following gentlemen were appointed members: Dr. William McCrea (President), Captain Andrew Clarke, R.E., Dr. Richard Youl.

Dr. McCrea held the position of Chief Medical Officer at the time of his appointment, a position corresponding to the Government Medical Officer of to-day. Captain Clarke had recently been a Minister of the Crown, holding the office of Surveyor-General. Dr. Youl was in private practice.

This Act provided for the establishment of local boards of health and for the appointment of sanitary officers, including medical officers of health.

The attitude of the Central Board as regards medical officers of health was rather curiously illustrated in the case of the City of Melbourne. The Council of the City appointed a medical officer of health in July, 1855, but the Central Board refused its approval, stating that there was not the smallest necessity for such an appointment.

The obligation of carrying out the provisions of the Act was cast upon the local boards. Where a local board failed the Contral Board was empowered to step in and enforce the law.

The Central Board was a branch of the Department of the Colonial Secretary and subject to that Minister.

The Legislative Council ceased to exist on November 23, 1855, when the Act constituting responsible Government came into force.

With the passing of the *Constitution Act*, the office of Colonial Secretary disappeared, to be replaced by that of the Chief Secretary.

The constitution of the Central Board as set out above continued until 1867 when an amendment was passed, providing for the appointment by the Governor in Council of seven members. Dr. McCrea was continued in office as President. His colleagues included two medical practitioners, one engineer and three laymen. Dr. McCrea resigned from the service in July, 1879, and was succeeded as President by Dr. Youl.

This Board with changes of personnel, but always maintaining its proportion of medical practitioners, continued to administer the *Health Act* until November 1883, when the *Public Health Amendment Statute* (47 Vic., No. 782) came into operation.

This Act provided for the appointment by the Governor in Council of nine members. The members first appointed under this Act included Dr. Youl (President), two other medical practitioners, two analytical chemists, an engineer, two members of the Legislative Council and one member of the Legislative Assembly.

Matters did not progress smoothly under this Board and the Government determined upon a change in administration.

The President (Dr. Youl) was transferred to the position of Coroner and a clerical officer of the public service was appointed in his place in July, 1884. This was a marked change in policy. From the inception of the Board in 1855 a medical practitioner had held the position of President.

On the transference of Dr. Youl several members, including the medical members, resigned. After a very ruffled existence of five years with several changes in the personnel, the Central Board was abolished under the provisions of the *Public Health Act, 1889* (53 Vic., No. 1,044), and the Board of Public Health and the Department of Public Health were created.

Up till this time the staff of the Board consisted of a secretary, clerical officers, an engineer and a sanitary inspector. No medical officer was on the staff. When a special medical inspection was required, a private practitioner was engaged. Port health inspection was carried out under the direction of the Board by two port health officers who, however, were in private practice and were not available for medical inspections generally.

The Act of 1889 provided that the Board shall consist of the permanent head (the chairman), the medical inspector (a position created by the Act) and seven members elected by groups of councils.

The President of the Central Board on its abolition was transferred to another department and a clerical officer of the public service with a legal training was appointed permanent head of the newly created health department and Chairman of the new Board. The first Medical Inspector was Dr. Gresswell. Provision was made in the Act for fees and travelling allowances for the members. Hitherto, with the exception of that of the President, the positions were honorary. The Medical Inspector was soon engaged in a vigorous campaign of inspection with a resultant awakening of a sanitary conscience which has not since been allowed to slumber. Matters, however, did not progress favourably from an administrative point of view under the new arrangement.

The Medical Inspector was subject to the direction of the Chairman even on medical matters. Friction and delay occurred and consequently administration was not satisfactory. Finally in August, 1894, an amending act was passed whereby the Medical Inspector also became Chairman and permanent head, thus reverting to the policy in force between 1855 and 1884.

The Board of Public Health continued in existence until March 24, 1920, when it was replaced by the Commission of Public Health, created under the *Health Act, 1919.*

This Act provides for the appointment of an administrative body called the Commission of Public Health, consisting of the Chief Health Officer and six members appointed by the Governor in Council.

Of the six appointed members not more than two shall be medical practitioners. The title of "Medical Inspector" has been dropped to be replaced by that of "Chief Health Officer." It is also provided that the Chief Health Officer shall be Chairman of the Commission and permanent head of the Department.

The principal duty of the Commission is to enforce the provisions of the Act generally. It is in addition empowered to exercise, subject to funds being legally available, the following powers:

(*a*) To promote the prevention, limitation and suppression of infectious and preventible diseases.

(*b*) To report to the Minister upon matters affecting the public health and upon any amendments which it thinks advisable in the law relating thereto and upon matters referred to it by the Minister.

(*c*) To promote or carry out researches and investigations and to make inquiries in relation to matters concerning the public health and the prevention or treatment of disease.

(*d*) To publish reports, information and advice concerning the public health and in particular concerning the prevention and control of disease and the education of the public in the preservation of health.

(*e*) To advise and assist councils in regard to matters affecting the public health.

It will be noted that the foregoing powers are very similar to those vested in the English Ministry of Health.

The Minister of Health is vested with all the powers of the Commission and he may exercise them whenever he deems fit and he may also supersede any act of the Commission.

The Minister is also empowered to provide for the medical and dental treatment of school children.

The matters dealt with under the *Health Act, 1919,* include:

(1) Nuisances.
(2) General sanitary provisions—
  (*a*) Refuse, nightsoil, etc..
  (*b*) Septic tanks.
  (*c*) Drainage.
  (*d*) Pollution of water.
(3) Offensive and dangerous trades.
(4) Cattle saleyards.
(5) Infectious diseases.
(6) Vaccination.
(7) Hospitals—
  (*a*) Public (structure only).
  (*b*) Private.
(8) Public buildings.
(9) Boarding-houses, common lodging-houses and eating-houses.
(10) Fire prevention and extinction.
(11) Food and drugs.
(12) Meat supervision.

The supervision of dairies and milk shops is included in the functions of the Agricultural Department. Port health work has been transferred to the Commonwealth.

The Department of Health administers the *Health Act, Cemeteries Act, Infectious Diseases Hospital Acts, Heatherton Sanatorium Act, Midwives Acts, Venereal Diseases Acts and Goods Act,* but the Commission is concerned only with the first two.

The Commission has no control over the officers of the Department nor has it any funds at its disposal except what may be made specially available. If the Commission wishes to carry out any investigation requiring expenditure, it must wait until the Treasurer has provided fuds. Under Government methods of finance money cannot be made available in anticipation of an emergency.

In effect the Commission resolves on a certain action and the Department carries out the resolution, if it has the necessary staff, equipment and funds available. In fact the Commission in so far as officers and funds are concerned, is precisely in the same position as the old Board of Public Health.

In case of an emergency the Minister has power to sanction expenditure up to £100. If more than that is required, the approval of the Governor in Council is necessary.

The obligation of carrying out the provisions of the Act of 1919 is, as in the repealed Act, cast upon the municipal councils. If any council fails to do so, it is the duty of the Commission to compel the council to carry them out. In case of an emergency the Commission may take action and charge the council with all the costs and expenses.

In the main the functions of the Commission are advisory and supervisory.

There is no bacteriological laboratory directly attached to the Department. This work is done at the University, to which a special subsidy is paid by the Government.

Arrangements have been made whereby any practitioner may send specimens for examination and report without cost either to him or his patient.

The Department supplies lymph free to any practitioner who requires it, but no other virus nor any vaccine or serum is provided.

So far no legislation has been passed dealing with the welfare of infants except in connexion with boarded-out infants. Baby health centres are subsidized by the Government, but no direct supervision is exercised by the Department except to see that the subsidy is judiciously expended. The control of boarded-out children is under the Chief Secretary.

The *Midwives Act* has been in force for five years and is gradually effecting an improved condition of affairs. The Act provided that all women at the passing of the Act who had practised for two years as midwives, were entitled to registration. Necessarily this included a fair proportion of unsatisfactory midwives, but had competence been demanded a large number of women would have been deprived of assistance at child birth. The outgo of midwives is greater than the income, consequently the outlook is rather serious. The existing training schools cannot turn out sufficient midwives to meet the demand. An increased number of training schools is absolutely essential for the welfare of mothers and infants. If some of the maternity bonus funds could be used for establishing maternity hospitals with training schools, much benefit would result.

School medical inspection is under the Education Department. As previously stated, the Minister of Health is empowered to arrange for medical inspection of school children. It is, however, intended that departmental officers detailed for this duty will work in conjunction with the medical officers of the Education Department. Treatment of school children is not included in the duties of departmental health officers.

No medical practitioner is eligible for permanent appointment to the Department of Health unless he has a special qualification in public health. Preference is given to those who have had military service with the Australian Imperial Force.

The Act provides for the proclamation of district health areas and the appointment of district health officers. No appointments have yet been made as the legal machinery necessary for carrying out the duties effectively is not yet complete.

As the Act is not yet in full force, it is not possible to state the results, nor to give an accurate forecast.

If the sanitary knowledge already acquired could be applied, substantial benefits would follow closely.

The application of sanitary knowledge means increased expenditure in the form of taxation or rates and this is very unpopular. When the public fully realizes that increased expenditure is in the nature of an insurance premium for securing better health and preventing economic loss, sanitary reforms will follow.

Many municipalities still pertinaciously cling to the foul, single pan system, on the ground that the double pan system would be a monetary hardship on the community. Even an outbreak of typhoid carries no lesson to such. At best the double pan can only be described as the least bad system. To suggest a sewerage system to this type of municipal council conjures up visions of insolvency.

Sanitary reforms cannot proceed faster than the hygienic education of the public and the most important problem requiring solution at the present time is: How may the public be quickly educated so as to demand such domestic, industrial and social conditions as are necessary for the preservation of health from conception onwards?

IV.

THE DEVELOPMENT OF THE PUBLIC HEALTH DEPARTMENT OF QUEENSLAND.

COMPILED FROM MATERIAL KINDLY SUPPLIED BY DR. R. W. TELFORD, DEPUTY COMMISSIONER OF PUBLIC HEALTH OF QUEENSLAND.

Prior to 1901 the public health of Queensland was administered by a Central Board of Health. In January of that year Dr. B. B. Ham was appointed the first Commissioner of Public Health. The office of the Department was situated in the old Custom House near Kennedy's Wharf, Brisbane. The Chief Inspector was Mr. J. Simpson, a sanitary inspector and engineer trained in Scotland. In November of the same year an assistant inspector was appointed. The administration of the Department was based on the provisions of the *Health Act, 1900,* which amended and consolidated the previous acts. The introduction of this legislation had its origin in an outbreak of bubonic plague.

At the end of the year the offices were transferred to the Treasury Buildings in Queen Street. In the year 1917 the Department moved to the Old Court House, Hope Street, South Brisbane. The Bacteriological Laboratory was situated at first in College

Street in the building now occupied by the Australian Hookworm Campaign. Later on it followed the Department to South Brisbane and in recent years has been known as the Laboratory for Microbiology and Pathology.

At the present time the staff of the Department consists of the Commissioner of Public Health, the Health Officer, the Secretary, the Chief Clerk and the Record Clerk. The Laboratory is under the charge of a microbiologist and pathologist. In addition, there are two medical officers attached to the Department, one for venereal diseases and the other for tuberculosis. The other officers of the Department are two nurses and clerks, typists and messengers attached to the various branches.

The officers of the staff are recruited as a rule in Queensland. A few, however, have come from Victoria and New South Wales.

In the year 1902 a course of lectures on sanitary science was instituted at the Technical College and examinations were held for the qualification of inspector of nuisances. The examinations are held twice yearly and the majority of the inspectors of the Department have been successful candidates at these examinations.

Under the regulations attached to the *Public Health Act, 1901,* it became necessary for the first time for medical practitioners in Queensland to notify certain infectious diseases. A Metropolitan Joint Epidemic Board was established and to this Board was attached a medical officer who was at the same time Medical Officer of Health to the component local authorities. The notifications were sent in the first place to the Commissioner, who reported in turn to the Board to enable it to carry out its duties of disinfection. It appears that the medical officer failed in his duty in connexion with the work of recording the various outbreaks. As a result each local authority in the metropolis appointed its own medical officer of health.

Closely associated with the Infectious Diseases Regulations are those dealing with the cleansing of infected areas. In addition, regulations concerning food and drugs were also introduced in 1901. These regulations were based on the recommendations of a Departmental Committee and were the first pure food regulations issued in the Commonwealth. The duty of collecting samples for analysis and of inspecting food was imposed on the inspector, who was the servant of the local authority. At first there was no inspection of meat destined for local consumption, although meat for export was subjected to strict supervision.

The Department of Public Health obtained full control in 1901 for the administration of measures directed toward the combating of plague. It was found that the joint boards for the prevention of the spread of epidemic disease possessed no machinery to meet an outbreak of plague outside the urban districts of Brisbane and Rockhampton. To meet this defect health officers of ports were appointed for Townsville, Rockhampton, Gladstone, Mackay, Cairns, Bundaberg, Maryborough and a few other towns, with instructions to carry out the infectious diseases regulations relating to plague, cholera and small-pox. These regulations included provision for the destruction of rats.

In the year 1903 the joint boards were dissolved and the Metropolitan Joint Hospital Board was created. Fresh regulations were introduced dealing with the endeavour to combat scarlet fever. In the year 1914 the *Dairy Produce Act* became law. This measure aimed at the better control of dairies and of the milk supplied. Dairymen were compelled to submit cattle to the tuberculin test. In 1906 the Government Analyst was attached as an officer of the Sub-Department of Public Health in order that the Pure Food Regulations might be more efficiently carried out.

Before the passage of the *Quarantine Act, 1908,* the control of lepers was placed in the hands of the Departmental Officers in the Home Secretary's Department. The Leper Asylum was situated at Stradbroke Island and patients were admitted on warrant. Under the Federal *Quarantine Act* the leper lazarets were required to be proclaimed as quarantine areas. In 1910 the Peel Island Lazaret was established and duly proclaimed.

At the request of the Minister of Public Instruction the Commissioner of Public Health drew up in the year 1910 a scheme for the inspection of school children in the schools. As a result of this report a whole-time medical inspector of schools was appointed by the Department of Public Instruction in January, 1911. It will be remembered that this Department developed under the ægis of the Minister of Public Instruction until the early years of the war. There were three whole-time inspectors, one of whom was an expert ophthalmologist and devoted his activities to ocular diseases among school children. Dr. Roger was unfortunately killed early in the war. Later both the inspectors obtained leave of absence to enable them to undertake military duties and the State was thus left without a whole-time school medical officer. Dr. Eleanor Bourne on her return from the war resigned her position and Dr. Elizabeth Sweet died shortly after her return. Since that time the work has been carried out by part-time officers nominally under the Department of Public Instruction, although the Commissioner of Public Health has been regarded as the co-ordinating head of this special service.

In 1912 a Nurses' Registration Board was instituted under the provisions of the *Health Act.* By the introduction of registration the standard of efficiency of the practising nurses other than those registered in virtue of having been in practice prior to the passing of the Act, was raised.

The amended *Health Act, 1911,* contained provisions for the introduction of measures aiming at the control of venereal diseases. The earliest application of these provisions took place in 1913 in the metropolitan area of Brisbane. During the first few years difficulty was experienced in enforcing some of the measures of control on account of the failure to arrive at a legal definition of the word "prostitute." In these circumstances the regulation requiring "prostitutes" to submit to examination was not enforced. In 1917 a further amendment of the *Health Act* was introduced for the purpose of adopting provisions

similar to those contained in the *Venereal Diseases Act* of Western Australia. The amending Act removed all the disabilities which had impeded the Commissioner in applying the provisions of the older measure.

The work of the sanitary control of northern Queensland was invested in the Northern Office situated at Townsville. In the year 1916 two of the inspectors were transferred from this office to Cairns and Rockhampton respectively. These officers were required to control the food supply and the sanitary arrangements in their new areas. In Brisbane great difficulty has been experienced in obtaining suitable sanitary arrangements owing to the absence of a deep sewerage system. The population of Brisbane is approximately 200,000 and the responsible authorities in the Department recognize that the institution of this system is an urgent necessity in a city of this size. In April, 1920, a Venereal Diseases Isolation Hospital was opened in Park Road, South Brisbane, and the services of a full-time medical officer were obtained. Under the old régime the branch was known as that of enthetic diseases. Late in 1919 the Clinic which has previously been attached to Brisbane General Hospital, was removed to the building of the Health Department, while additional examination rooms were opened in the city in William Street.

It is impossible in the available space to refer to the manifold activities of the Department or to the ever-changing regulations connected with the *Health Act* and other hygienic measures. From the foregoing it will be seen that the Department during the twenty years of official existence has gradually extended and that the number of medical practitioners engaged directly or indirectly in public health work within the State is increasing.

V.

PUBLIC HEALTH IN SOUTH AUSTRALIA.

CONTRIBUTED BY SPECIAL REQUEST BY DR. W. RAMSAY SMITH, THE PERMANENT HEAD OF THE DEPARTMENT OF PUBLIC HEALTH OF SOUTH AUSTRALIA.

A statement of the present position of public health in this State involves a story of natural evolution and scientific experiment, both in legislation and in administration. This is due to the nature of the legislation passed in 1898. The *Health Act* of that year was a new departure in two respects. Firstly it embodied some novel features, some new scientific ideals. Secondly it introduced new legal machinery. The drafting was direct and terse in style, eliptical in phraseology and the provisions therefore in a large measure lacked legal precedents—a very serious consideration. Within a few months of its becoming law it might well have been deemed unworkable, impracticable, impossible. On the other hand, there was an alternative, *viz.*, to bring to bear upon the new conditions all available legal and administrative experience gained in other places and in a variety of circumstances and so to study public health problems under new conditions while observing all the well-recognized principles and practices that are generally accepted as essential for public safety. There was also a further inducement; for it had become apparent that the physical conditions of the State, the temperament of the people, the clinical manifestations of diseases, the nature and rate of pathological processes, all promised abundant opportunity for patient study of new methods of administration.

It may be said that the health administration in this State is founded on the principle of local government with a central authority having concurrent jurisdiction and possessing certain special powers. The State is divided into districts, each with its municipal or its district council as a local board of health; but in sparsely populated places the Central Board of Health alone administers. The Central Board consists of the Chairman, who is the permanent head of the Department, two permanent members appointed by the Governor and two members elected every two years, one by the city and suburban local boards, numbering 20, the other by the remaining boards, 164 in number. It is to be noted that in this State about 55% of the total population is massed in and around the capital. Local boards may combine for some, or all, purposes of the Act. The members of all local boards are elected annually by the rate-payers. Few local boards outside the metropolitan area possess whole-time trained administrative officers. The resultant lack of continuity of policy and of uniformity of administration is compensated to some extent by the relatively more permanent nature of the central administration.

Local Boards.

Each local board is sanitary executive for its own district. Without consent of the rate-payers it can declare and collect such rates as may be necessary for the administration. A board may rate part of its district for special purposes within the rated part. This later addition to the Act has proved of great practical value. The board is required to keep separate accounts and minutes regarding its health administration.

The appointment of an officer of health, a medical practitioner where practicable, is compulsory. This officer has all the powers of an inspector under the Act. His appointment and dismissal are subject to the approval of the Central Board. In only one case has an officer of health been dismissed since the Act came in force in 1899.

The local board appoints such inspectors as the Central Board deems necessary. Outside the metropolitan area few local boards have an inspector who devotes his whole time to the work. In many cases the secretary is inspector and does other duties besides. An inspector has extensive powers. He may enter and inspect premises, including all premises owned or occupied by the Government or public bodies, at practically all reasonable times; the police are required to assist him if he is obstructed. The administration of the Act depends so much for its effectiveness on the character, training and executive work of the inspectors that something may be said on the subject of their qualifications and training.

In 1909 the Central Board of Health, with Government sanction, had launched a State scheme of ex-

aminations for certificates of efficiency as sanitary inspectors, when overtures were made on behalf of a board of examiners that had previously been constituted by the Royal Sanitary Institute with a view to amalgamation. The necessary matters were adjusted; and since that time the examinations of the Royal Sanitary Institute in this State have been carried out by a board with the permanent head of the State Health Department as Chairman. The scheme now embraces the inspectors' certificate, the certificate in sanitary science, the meat inspectors' certificate and the examination for membership of the Royal Sanitary Institute. Facilities for qualifying are provided by classes of instruction at the School of Mines and in practical work especially by the Central Health Department arranging for candidates being attached to its inspectors and accompanying them in inspections and other work.

The employment of trained nurse inspectors forms a feature of the administration. In 1899 a local board of health in the metropolitan area appointed a "trained nurse" on its staff for visiting, disinfecting and other work in connexion with infectious diseases; but she was not an "inspector" under the Act as regards either her powers or her duties. In 1900, when another local board in the metropolitan area proposed to appoint a similar nurse with certain additional duties, it was suggested that, in order to give her the necessary powers for carrying out these effectively, she should be appointed an inspector under the Act and this was done.

In 1909 certain trained nurses were engaged by the Central Board for special sanitary work and were appointed as sanitary inspectors in connexion with health administration in one of the cities. They acted under the immediate control and direction of the Central Board of Health. When the work on which they were engaged was finished, they were placed on the permanent staff of the central administration. These trained and certificated nurse inspectors were highly qualified. They were experienced nurses in general nursing, infectious diseases and quarantinable diseases, such as small pox and plague. They were trained in all matters pertaining to public health work and food and drugs and were familiar with every department of the administration of health acts. In addition to this, they held the certificate of the Royal Sanitary Institute either at the date of appointment or immediately after the new examination scheme was in force. In addition to special duties that might be required of them as members of the nursing profession, they were required to do all the work done by men holding the office of inspector under the Act.

In 1917 "The Health Inspectors' Society of South Australia," now incorporated, was founded. By its constitution, personnel and activities it is calculated to provide the means of reaching and maintaining a high standard in health administration in the State. The qualified candidates for the post of inspector have usually a good education, a notion of practical affairs and experience in clerical work, buildings, drainage and such like. In regard to the occupations of persons who presented themselves for the Royal Sanitary Institute examinations from 1907 to 1920 of 33 women, 31 were trained nurses. Of 84 men, 37 were already inspectors of local boards. There were 13 clerks, 6 plumbers, 3 each grocers' assistants, butchers, chemists, carpenters, hospital attendants, 3 each tramway motormen and corporation inspectors, 1 each saddler, school teacher and synagogue official.

Insanitary Conditions.

The term "nuisance," which appears in the English and Scotch Health Acts and codifies or embodies much that is contained in the common law, occurs but once in the South Australian Act. It is replaced largely by the terms "insanitary condition" or "injurious to health." Further, the methods of dealing with nuisances or insanitary conditions mark new departures in health administration.

Although the classical "nuisances" of the English and Scotch Acts still appear, though in a changed guise and may be dealt with according to the traditional procedure, such a method is rarely adopted. There are advantages in proceeding under other sections. These may be illustrated. In England, if procedure is adopted under the section relating to nuisances, any one or more of a dozen issues may arise in court regarding questions of law or matters of fact. Under the South Australian procedure these may be obviated. For example: The Act says: "The expression 'insanitary condition' includes every breach or non-observance of any of the sanitary provisions of this Act and also every condition declared to be an insanitary condition pursuant to Section 51." If an inspector finds that an insanitary condition exists, he is required to report to the local board and to give certain particulars regarding its location, nature and cause. If he considers that it should be immediately removed, he serves a notice either upon the occupier or the owner of the premises, stating what is required to be done and limiting a time for compliance. On receiving the inspector's report the board may serve a notice requiring the removal or amendment of the insanitary condition. This is the usual procedure in "important cases"; the board in the notice usually declares the condition to be an insanitary condition. If, on the other hand, the inspector has already served a notice, the board may adopt the inspector's notice or issue a notice in lieu thereof. If the person on whom the notice is served, neglects to comply with it, proceedings may be taken against him. The only questions that arise in court are: (1) Was the condition declared to be an insanitary condition? (2) Was the notice to abate duly served? (3) Was the notice complied with? If not, the defendant is punishable for the offence of failing to comply with the notice. So far there has been no appeal from this as law.

The "concurrent jurisdiction" provisions have been found useful in emergencies that were unforeseen or unprovided for if foreseen. In an appeal case it was held by the court that in the ordinary course of events a local board was the operative authority within its own district, subject to any direction which the Central Board may give; but this usual exercise of power does not in any way exclude the general authority given to the Central Board by Section 12 to secure the sanitary condition of the whole province and by Section 20 to make that general power effec-

tive in any particular district by assuming the powers of the local board. In such circumstances, however, the expense of administration would be borne by the Central Board and not by the local board unless the local board had first been proved to be in default or had neglected the Central Board's directions.

Infectious Diseases.

The provisions relating to the control of infectious diseases were intended to be one of the distinctive features of the Act. Like all new legislation, the enactments were calculated to be troublesome to the administration and burdensome to the community, unless wisdom and forbearance were largely exercised. At the same time and by way of compensation they promised abundant scope for the study of diseases and for ingenuity in administration.

In 1896 investigations into the subject of infectious diseases were began at the Adelaide Hospital and were pursued along two lines. One was the natural history of certain diseases, especially typhoid fever, consumption and diphtheria; the other was the pathology of diseases including pathological processes and bacteriology. Three years later much of the latter work was transferred to a small laboratory established principally for the work of the Chief Inspector of Cattle appointed under the *Health Act*. Among the pathological work done there, may be mentioned the invention of new methods of rapidly preparing histological specimens; the study of the structure and growth of various varieties of cancer cells, made possible by the discovery of new methods of staining; the structure, growth and distribution of multilocular hydatids, founded on an examination of a thousand specimens principally from the lower animals; researches into plague, trichinosis, actinomycosis, anthrax, brand-cancer, "horse sickness" and the micro-organisms in water supplies. In 1904 this laboratory was handed over to another department and since then investigations of this nature have been discontinued.

The researches into the natural history of diseases and epidemics, carried on from 1896, include investigations into leprosy, plague, consumption, cerebro-spinal meningitis and infectious diseases generally, not only in this State as now defined, but in the Northern Territory, Hong Kong, Japan, the Philippine Islands, New Caledonia and the New Hebrides and the United States. With the administration in all of these places the Department has kept in close touch for many years. The lessons learned from observation and investigation here and elsewhere and from local administrative work have been set forth in detail in the various editions of "The Control of Communicable Diseases in South Australia," published in 1909, 1910 and 1919. From 1899 onwards efforts have been made by means of circulars, pamphlets, published articles, lectures and such like means to bring all the facts and principles, with practical illustrations of control, before the local authorities, school teachers and the general public. The constant "objective" is effective and intelligent control with the least possible hardship to the community.

At present the notifiable infectious diseases are leprosy, plague, yellow fever, small pox, cholera, diphtheria, membranous croup, erysipelas, scarlet fever, scarlatina, typhus, typhoid, enteric, relapsing or puerperal (including all puerperal conditions depending on infection) fever, anthrax, trichinosis, cerebro-spinal meningitis, cerebro-spinal fever, epidemic cerebro-spinal meningitis, intermittent, remittent, paludal or malarial fever, whooping cough, measles, tuberculosis in animals, favus, bilharziosis, *influenza vera*, influenza or any febrile toxic septicæmic condition similar to influenza, including "pneumonic inflenza." Chicken-pox was made notifiable temporarily on two occasions when small-pox threatened. Pulmonary tuberculosis is notifiable, though not as an "infectious disease" and it is subject to certain special provisions as to powers and procedure. The experience gained of the working of compulsory notification of pulmonary tuberculosis from the time of the passing of the Act has been set forth in a contribution read before the Fifteenth International Congress on Hygiene and Demography, at Washington in October, 1912, and published in Volume IV. of the transactions.

Methods of Control.

The conclusion from study and administration, especially administration by officers of the Central Board acting in districts of local boards during epidemics, may be briefly put thus: that most if not all communicable diseases affecting the State can be successfully controlled or effectively prevented provided that the various local authorities care to avail themselves of the machinery which the *Health Act* enables them to provide for these ends. This applies to measles or diphtheria in a country district, scarlet fever in a city, or malaria in the Northern Territory or to any infectious disease in any part of the State. The *Health Act, 1898*, gave powers to every local board of health to provide for the control of infectious diseases within its bounds in the most comprehensive and effective manner and to defray all the expenses of such control from the sanitary rate which it was empowered to levy. What sort of control is necessary? What amount of control is justifiable?

At the Plague Conference in Melbourne in 1900, the delegates had available in their deliberations the experience of its members in traditional and personal methods of administration in England, Scotland, France and Australia. The principles then assumed and acted upon with reference to effective control of communicable diseases have never been lost sight of in this State. Summarized, they are: In order to check disease it is necessary (1) to detect every case of illness in the earliest stage at the earliest possible moment, (2) to separate the sick from the well and keep them separate, (3) to isolate, under observation, persons who may be contacts of the sick. The isolation of the sick is not necessarily a geographical isolation, but it requires to be a biological or physiological isolation sufficient to prevent the passage of infected or infective material from the sick to the healthy.

The military administrative programme for plague at the Cape at a critical stage in 1900, drawn up by one who had been a member of the Conference, was founded, not on deductive logic, which, said Moxon, has been the curse of medicine, but on the inductive

logic of practical experience which, while leaving room for incidental experiment with novelties, gives uniformity and continuity to the administration and begets confidence on the part of the community. The statement of principles and practice therein set forth in detail requires no modification or alteration at the present time. A reference to the recent epidemic of influenza will show the strength and weakness of the position of this State, the nature of the machinery and the defects of its working.

The machinery that should have been at the disposal of local boards of health during the past 20 years under the *Health Act* for the purpose of controlling infectious disease, consists in (*a*) officers of health, responsible for the general and special duties specified in the *Health Act* and regulations, (*b*) inspectors, or nurse inspectors, or both, for visiting infected premises and giving directions and carrying out isolation and disinfection, (*c*) hospitals, or arrangements with hospitals, under the *Health Act*, for isolating and treating patients suffering from infectious disease, (*d*) means, or arrangements with hospitals, for conveyance of patients with infectious diseases to hospitals.

VI.

HEALTH ADMINISTRATION IN TASMANIA.

CONTRIBUTED BY SPECIAL REQUEST BY DR. E. SYDNEY MORRIS, THE DIRECTOR OF PUBLIC HEALTH OF TASMANIA.

The *Health Acts* of 1885-7 vested control in a Central Board of Health composed of five members, not necessarily medical men. In practice usually two, sometimes three, medical men were appointed, the remainder of the Board being composed of an engineer, business man or politician.

The local administration was carried out by local boards of health which were, in effect, the councils of municipalities.

The Central Board had permanent tenure unless deposed by the Governor, but the duties devolving on the Board were, so to speak, subsidiary to their private affairs, as they only met at intervals, the work in the interim being carried out by the Secretary.

In 1903 small pox was introduced into Launceston, but, in spite of experience of a similar epidemic in 1887, the local board of health was found unprepared, with no supply of lymph available and without efficient organization to control the outbreak. Misunderstandings with the Central Board of Health, resulting in divided control and friction, culminated in the appointment of Dr. Elkington as Chief Health Officer with supreme authority. The Acts of 1885-7 were repealed and replaced by the *Public Health Act* of 1903, under which the whole administration is vested in the Director of Public Health, to whom the local authorities (municipal councils) are responsible. The Director of Public Health is the permanent head of the Department, being directly responsible to the Minister.

From time to time difficulty has been experienced in retaining the continuous service of the permanent head, chiefly owing to the fact of more remunerative positions, actual or potential, being offered elsewhere. This has caused a certain amount of dislocation in the progressive administration of the Department, as lengthy periods have elapsed between the departure of one officer and the appointment of his successor.

The Act specifies that the Director of Public Health (Chief Health Officer) shall be a medical practitioner, with special knowledge of sanitary and bacteriological science and in each appointment the possession of the Diploma in Public Health has been considered essential. The Act further lays down the necessity for his being a full-time officer.

Assistant health officers, inspectors and other officers may, upon the recommendation of the Director of Public Health, be appointed from time to time and each such officer is subject to the control of the Director. At the present time there are only two full-time medical men in the Department and a recruiting ground for sub-ordinates can hardly be said to exist. Practically all the appointments, so far made, have been filled by men trained elsewhere. It is hoped that in the near future a full-time pathologist and bacteriologist will be appointed to the Department.

The *Public Health Act* of 1903 and its several amendments is the legislative basis of administration. Under ordinary circumstances the Health Department is a supervising and advisory one, for which purposes a staff of inspectors is maintained who make periodic surveys of each municipality in the State. The notification of infectious diseases is obligatory on medical practitioners.

The Director of Public Health is vested with considerable authority in virtue of which he can compel local authorities to carry out any work necessary for the preservation of public health.

In the control of dangerous infectious diseases (small pox, plague, cholera, etc.) he has supreme power enabling him to take over the entire control of outbreak. The *Public Health Act*, 1903, with amendments deals with the following subject matters: Prevention of infectious disease, drainage, scavenging, nuisances, prevention of pollution of water courses, public buildings, cemeteries and burial grounds, control of dairies, by-laws, offensive trades, etc.. Other Acts administered by the Department are the *Public Health Further Amendment Act*, 1917 (*Venereal Diseases*), *Midwives Act*, 1911, *Food and Drugs Act*, 1910, *Places of Public Entertainment Act*, 1917, *Hospitals Act*, 1918.

Comprehensive regulations are in force under each of these enactments. There are other movements, such as child welfare and bush nursing work, in conjunction with the Department.

The *Venereal Diseases Act* makes provision for the compulsory examination and treatment by a medical practitioner of every person suffering from any venereal disease or suspecting that he is so suffering. Notification of cases to the Department is obligatory, but such notice shall not disclose the name and address of the patient. This latter information is only made known to the Department if the patient fails to continue treatment so as to enable steps to be taken

to apprehend and, if necessary, to detain the sufferer.

The *Food and Drugs Act* gives very wide powers for securing cleanliness in the manufacture and storage of food and for the enforcing of standard purity in the finished article. A Food Standards Committee has been appointed under the Act.

The *Places of Public Entertainment Act*. The licensing and regulation of theatres, music-halls, etc., is effected under this enactment. The details include seating accommodation, ventilation, lighting, sanitary requirements, fire precautions, regulating the use and operation of cinematographs and the provision of a board of censors of moving pictures, etc..

The *Hospitals Act*. The inspection and supervision of all hospitals is a duty under the *Hospitals Act*. In the case of private hospitals the control extends to their licensing and supervision of management.

The *Midwives Act*. All practising midwives must register annually and are compelled to notify the Department of any accident or abnormal conditions present at birth. Power to suspend a midwife temporarily is granted in any case where such suspension appears necessary in order to prevent the spread of infection.

The *Quarantine Act*. This Act is administered on behalf of the Commonwealth Government. Four part-time quarantine officers are engaged in connexion with the inspection of vessels subject to quarantine.

The above résumé of duties with the legislative basis of control will explain the administration from the Department's point of view. Wherever control can be conveniently subordinated to local authorities, the latter are charged with the duty of carrying out the provisions of the *Public Health, Food and Drugs* and *Places of Public Entertainment Acts*. Any neglect in doing so is capable of redress by legal or other process by the Director of Public Health. The method adopted consists in requiring each local authority to appoint a medical officer of health, usually a general practitioner on a part-time basis and one or more inspectors, whose duty it is to bring any infringement of the law under the notice of the local authority which, in turn, should take the necessary action to rectify the condition at fault. If necessary the Public Health Department advises as to most effective way of dealing with the particular question and, if thought desirable, details an officer to attend to the matter on the spot.

Every effort is made to impress the local authorities with the necessity for close attention to health questions and the elimination of unsatisfactory conditions, also to gain their co-operation in any movement towards improvement in hygiene and general sanitation. This involves personal interviews, explanations and, at times, lectures.

The objectives in view are the prevention of disease, if possible, or, if it cannot be prevented, its speedy and efficient treatment and control. It is difficult to gauge the measure of success from the direct result of these efforts. Statistics showing the incidence of disease in population are not readily available, but death rates show a progressive decline.

Average death rate of all infectious diseases, 1887-1903: 1.45 per 1,000 living.

Average death rate of all infectious diseases, 1903-1919: 0.94 per 1,000 living.

Average death rate of tuberculosis (all forms), 1887-1903: 1.09 per 1,000 living.

Average death rate of tuberculosis (all forms), 1903-1919: 0.75 per 1,000 living.

Average infantile mortality rate, 1887-1903: 96.94 per 1,000 births.

Average infantile mortality rate, 1903-1919: 76.78 per 1,000 births.

There is no doubt that the general well being of the people has improved considerably and they are gradually awakening to the importance of health administration. The benefits accruing indirectly from legislation dealing with control of private lying-in homes, midwives, pure food, etc., must be great in the prevention of numerous disabilities which would tend to make life more unhappy if not shorter.

The actual gain from these sources is extremely difficult to assess, being chiefly reflected in life tables in which so many other factors play a part.

Provided they realize the gravity of the situation, the public, as a whole, have reached a position when they will not tolerate conditions detrimental to the public health. To attain this it is necessary for them to be educated by a rather slow process which, in many cases, involves firstly their compulsion and opposition, then their acceptance and resignation to the law and lastly their defence of the principle they at first opposed.

Public opinion is, at present, definitely in favour of local government which is undoubtedly a practical method of administration. It is an inheritance from the older mother country and in fact may be looked upon as a characteristic of the race. In some directions, however, it has its limitations. To mention only two outstanding instances—police and education—it has been found by experience that central is much more effective than local control, which was formerly the case. Whether such limitation applies to health administration is perhaps debatable, but local control certainly leaves much to be desired.

Health administration generally may be looked upon as an insurance premium against disease, involving expenditure without any tangible evidence of direct gain, hence owing to there being no financial return for money expended local authorities are, as a rule, opposed to the cost of administration. In the majority of cases this produces a state of *laissez faire*—the taking of the path of least resistance—and the only stimulus which rouses them from their somnolent lethargy, is a threat of legal proceedings from the Public Health Department or an epidemic of infectious disease in their midst. This criticism refers chiefly to rural municipalities, as cities generally maintain an adequate inspectorial staff with a half-time medical officer of health.

Local control may be excellent when the population is large enough to warrant the appointment of full-time officers whose sole duty it is to bring about and maintain hygienic conditions, but with a smaller population it is a case of "everybody's business is nobody's business." The usual plan is to appoint a part-time medical officer of health at the minimum salary (£10) laid down by the *Public Health Act*. He is not made responsible for health matters and

could not reasonably be expected to be for such a nominal honorarium, but merely gives his opinion and advice when asked for them. The local administration is thus usually left in the hands of the local authority composed entirely of lay persons, who often allow their duty, as custodians of public health, to be subordinated to considerations of local or parochial bias.

Executive action by the central department is regarded as reduplication and, so long as the present system is maintained, the Government can scarcely be expected to assume further financial responsibility for work which local authorities should perform. Either the latter should do it efficiently and enthusiastically or state definitely their inability to do so. To exert the necessary compulsion and concomitant education it is essential that constant supervision should be directed towards the detection of any conditions detrimental to the public welfare and this can only be effected by officials who are independent of the whims and wishes of the public they control. At present the laxity in this connexion is a serious defect in administration. There is no continuity of action. The councillors are elected yearly, often with the confirmed desire to keep rates and taxes at the lowest point under all circumstances. The immediate benefit of a road far outweighs any possible future benefit from the expediture of money on health administration.

The sanitary inspectors hold office only by favour of councillors and, without security of tenure, it requires a strong man to do his duty fearlessly, knowing that the person he prosecutes may have considerable influence with his employers—the councillors—who may not look at the matter entirely on its merits.

The local medical officer of health, not being vested with essential responsibility and receiving a mere pittance in the nature of a retaining fee, cannot afford to give his attention to health administration which will often bring him into conflict with his prospective patients. His function in the community is, therefore, primarily curative, when it should be preventive. Until the medical officer of health, whether as general practitioner or full-time officer, is retained as an active unit of public health administration, responsible to the controlling body of the State, we must fall short of the ideal.

The inspectors (sanitary, meat and other) are a *sine qua non*. They are the scouts of the army waging war against preventible disease and on them devolves the duty of ascertaining and transmitting information to the executive officials. These men should be efficient, well-trained and regarded as extremely important units of health organization. Unfortunately, in too many instances it is considered quite justifiable to appoint any person and then attach to him multifarious duties, ranging from road and fruit inspection to collection of dog licences. Health inspection being from the local authority's financial point of view a losing proposition, receives the minimum of attention, with consequent disappointing if not disastrous results.

Whether the State should pay these officials directly from consolidated revenue or indirectly from local rates or from both is a matter of policy, but the essential requirement for improvement is that these officials, whilst working for or on behalf of a particular local authority, should be responsible to the central Department preferably per medium of the local medical officer of health.

Such a scheme should be applied to each municipality not large enough to warrant the appointment of a full-time medical officer and in the case of the latter he should always be in close touch and co-operation with the central Department. By these means control would be exerted directly and continuously in place of the present method of indirect and periodic supervision.

Reform along these lines offers the prospect of improving the sanitary and hygienic conditions of the community to a greater degree than can be effected at present.

This principle, once attained, would put health administration on a better footing and much greater efficiency in the prevention of epidemic and other disease would result, whilst the public would be more quickly educated in the "art of living" and would eventually demand that "health" should be the first consideration.

We much regret that owing to circumstances over which he had no control, Dr. R. C. Everitt Atkinson, the Commissioner of Public Health of Western Australia, has not been able to contribute an article on his department in time for inclusion in this issue.

School Medical Services.

I.

SCHOOL MEDICAL SERVICE OF NEW SOUTH WALES.

CONTRIBUTED BY SPECIAL REQUEST BY DR. HARVEY SUTTON, O.B.E., PRINCIPAL MEDICAL OFFICER OF THE DEPARTMENT OF PUBLIC INSTRUCTION, NEW SOUTH WALES.

Quasi Cursores Vitai Lampada Tradunt.

In common with many other public services, the school medical service of the Department of Education of New South Wales has been affected by the war and by post-war economies. The absence of so many medical practitioners on active service rendered the filling of vacancies very difficult. In the near future when these vacancies and new positions provided for on the estimates are advertised and filled, the staff will be increased by one ophthalmogist, three metropolitan men and three metropolitan women medical officers, one rural women medical officer, as well as five travelling dentists, four travelling dental assistants, one metropolitan part-time dentist and four school nurses (metropolitan). The total medical staff will then be represented by a principal medical officer, officer in charge of travelling hospital, travelling ophthalmologist, eight rural and nine metropolitan medical officers.

The entrant positions at present command a salary for men of £528, rising to £600 per annum, and for women of £448, rising to £498. Where employed in rural work a travelling (living) allowance of £168 per annum is alloted and all rail and coach fares. These salaries are at present under revision. The qualifications for a school medical officer are fairly elastic.

Previous training and experience in children's, eye, ear, nose and throat or in health work are desirable, but of at least equal importance are items not so easily scheduled. Tact, a sense of responsibility, capacity for handling parents as well as children, an open mind and an interest in social problems are some of these personal intangible yet invaluable characters which spell success in the work, not only in general practice, but even more so in schools.

To the medical practitioners keen on surgery and direct curative effort and with the individual outlook this public service with its constant routine, its entirely preventive and purely diagnostic interest, the trammels of official instructions, returns and regulations and its relatively slow promotion would prove tiresome and uninteresting. On the other hand the pædiatrist, ophthalmologist, aurist and health worker have work full of interest, of new developments and of enormous social importance. As in most phases of existence the fullest liberty is only compatible with a certain basis of duties in common. These very regulations, at first irksome and savouring of red tape, will be found to give great freedom of action, untrammelled by having to please everybody, a security of tenure and a provision for the future in superannuation unknown to private practice, regular hours, regular leisure, regular holidays, no bad debts and a division of responsibility. Lastly, we may note, whatever he may say, the school medical officer can never be accused of "advertising."

It is these privileges which must be bought by the private practitioner, that bridge the gap between the low State salary and the higher returns of practice. Even in money value, as judged by cash credit, the State salary is worth a practice ostensibly double its value.

The school medical officer works as an independent unit on a general school itinerary mapped out for him in the office. His day consists in travelling, examining some 40 children or so and filling and marking cards for notification by the clerical staff. He also reports on the school building. When opportunity offers parents' meetings are held and addresses on health given. The number done daily seems high, 8 to 10 per hour. When one reflects that, as practically all the previous history in home and in school has been already recorded on the child's card, including height, weight and chest measurement, the six or seven minutes can be devoted to straight-out examination in detail, it will be seen that this amounts to at least 20 minutes devoted to a child (and its mother) in an ordinary clinical examination, where previous history has to be got out by tedious cross examination.

These routine duties are carried out for not more than five days a week and 216 days a year (the normal school year), no examinations being done outside school days. The work is exacting, but it does not seem too much to ask a healthy, active and trained mind to work hard for two-thirds of the year at five to six hours a day.

Other duties may be added to this routine. The investigation of epidemics of infectious disease, the research on special school problems (thyreoid enlargement, malnutrition, retardation, delinquency, mental deficients). Every now and then the most interesting and rare types and defects are met with, for every child is seen, not just those selected by illness that attend the hospital or practitioner.

To add interest and study meetings and conferences are held in every vacation, where matters of interest are freely discussed.

In the future as work developes, more and more opportunities will arise for better work and special investigations. Already the health supervision and lecturing on hygiene at the Teachers' College, similar duties for high-school girls and the medical control of delinquents have been formed into separate positions. The study of the borderline of the normal, both physical and mental, is becoming the aim of school work, demanding the complete use of every trained faculty

This broadening of the scope of the work and intensification of the study of details is the remedy which prevents the cramping effect of routine. Gradually, too, closer and closer union is being established between the work of the school medical and that of health services, university teaching and hospital clinical departments, so that a freer interchange of officers and duties will eventually become possible when preventive medicine becomes an organized united effort and forms the background and permeates the fabric of all medical school training and all clinical work, medical, surgical and obstetrical, at hospitals. With this will come junior posts for men after completing a year's residence at, say, £350 a year, when they after a year's probation can continue if the specialty suits them or go out into practice with a more adequate idea of the needs of school children.

In New South Wales the divorce between inspection and treatment has been partly overcome by the travelling ophthalmic and dental clinics and in the future the chance for preventive treatment as well as diagnosis will add greatly to the attraction of the work. For the young enthusiast interested in broader social problems and a good diagnostician, school medical work provides and will more and more increasingly provide the fullest possibilities for good work, genuine public service and furnish opportunities for a complete likework worthy of the profession.

II.

SCHOOL MEDICAL INSPECTION IN VICTORIA.

CONTRIBUTED BY SPECIAL REQUEST BY DR. JANE S. GREIG, MEDICAL OFFICER OF THE DEPARTMENT.

Departmental records show that the subject of school medical inspection was first brought under the notice of the Education Department by Dr. W. Perrin Norris, Chairman of the Public Health Department and that, during 1905, a preliminary survey was arranged by him and was undertaken by Dr. Muriel Davis in one of our suburban schools.

This confirmed what had been found elsewhere, that many physical defects existed in apparently normal children which seriously handicapped them and which were almost entirely neglected in the community.

At the end of 1909, the first definite steps were

taken by the Government in the appointment of a staff of three medical officers to organize school medical inspection.

These really formed a team with very distinctive qualifications. One, a Rhodes Scholar, was a children's specialist and research student in physiology; another was an educationalist and experienced lecturer and the third had given special attention to diseases of women and children and to public health.

The school medical officers devoted themselves to their task, carefully making observations and studying the problems as they went. As the work in all the States was in its infancy, little information was available. Standards had to be agreed upon. A strong effort was made to attain uniformity amongst different examiners. By working in close association, the medical officers gradually developed a scheme which has, we believe, shown itself to be sound, practical and well balanced.

After two years of work, the personnel of this group was modified by the resignation of one of their number, who was soon replaced by a new member experienced in infectious diseases, bacteriology and the diseases of the special senses. Two years later it was again strengthened by a new member, who was a university prizeman in physiology with good experience in general practice.

As to the qualifications required for a satisfactory school medical officer, considerable difference of opinion still exists inside and outside the public service.

The general impression outside seems to be that it is an easy job, that it is purely a matter of routine, involves little responsibility and that the medical inspector never needs to think. Similarly it is believed that anyone with a degree is good enough for the job, as it requires only an elementary knowledge of medicine to recognize the simple defects found. In our experience this is quite a misconception. First, it is not light work, but physically fatiguing, as it involves examining conscientiously for several hours on end a continuous stream of children, each of whom is a new problem. Added to this there is the necessity of travelling to and from schools throughout the city and country districts.

For actual work, a broad training in clinical medicine is an absolute necessity, as the worker has the sole responsibility of diagnosis and notification of defects, and, at the same time, is open to criticism from any member of the profession as well as the laity. Any error of judgement can seriously prejudice the work of medical inspection. If a parent is urged to procure medical treatment for cases unnecessarily this undermines public confidence in the medical profession and involves needless expense, which the parent naturally resents.

A wide clinical training and good general knowledge is, we consider, a necessity if the school medical officer is to do justice to the work. One of the disadvantages in medical inspection is that the doctor is to a great extent cut off from everyday clinical practice and must depend mainly on previous experience. For this reason the very recent graduate with little or no hospital or general practice will fail to observe many of the more difficult and intricate problems.

Reports show that in Paris, where a complete scheme of medical inspection has been established since 1883, every school medical officer must be of the minimum age of 32 years and must have had five years of professional practice. This shows that considerable experience is considered necessary.

The more experienced and trained the examiner, the more efficient will be the work done. Especially useful is expert knowledge of the special senses, for many of the defects found in these, though not constituting a matter of life or death, are of great educational importance, albeit they get but scant courtesy from the general practitioners.

Further, some at least of the staff need a good knowledge of public health work, but for all the ability to handle and manage children and inspire confidence is a first essential.

When the work of medical inspection was first undertaken here, it was almost like starting on a blank sheet. Diseases and defects were known as individual entities, but had seldom or never been studied in groups. Moreover, records of examinations of healthy children had been few; very little information existed as to standards for the average child and none at all for Victoria. Much discussion centred round the question as to how extensive the medical examination should be and as to how far measurements should be introduced.

In some of the earlier schemes of medical inspection abroad, attention was devoted almost entirely to the examination of the special senses, which were considered to be the avenues of education. Earliest attention was given to vision and, as a necessity, attention to lighting followed. Thus came the earliest improvements in school buildings. Gradually followed improved cleanliness, as dust and dirt were thus made visible. Following this came other hygienic improvements. After sight came attention to hearing and with this, of course, examination of the nose and throat. This, at the same time, made evident the appallingly neglected condition of the teeth which is now recognized as the most universal of all defects. Further investigations showed that intellectual ability depended not only on the special senses, but on general health and development of the individual. Such an acknowledgement immediately extends the medical examination. To be efficient it should include a complete examination of the child and an investigation into the aspects of his environment. This is what we considered a satisfactory medical inspection should do. It is along these lines that we have progressed; in many directions we have been able to show the value of such an extensive inquiry.

At first glance the scheme may seem to be so comprehensive as to be cumbersome and unworkable. But when it has been systematized and when experience and practice have given the necessary training, so that the normal and satisfactory points can be quickly recognized and any deviation that is unsatisfactory can be noted, skill in questioning and careful observation soon guide the medical officer along the best lines.

In the early development of medical inspection in

Victoria, keen discussion took place as to how far anthropometric measurements should be introduced. It was realized that they would be valuable in proportion to the care with which they were done and that, if carried out, they must be carefully standardized so that they would be valuable for comparison both with those of the Commonwealth and with those of other countries.

As so little information existed in regard to the normal Australian child and as tens of thousands of children would soon come under review, it was felt that a great opportunity would be missed if some observations of this kind were not made. To undertake an anthropometric survey of the children as a special investigation is a costly matter; but when every child is undressed for medical examination it is found that to take a few extra chest or head measurements means only a little delay. It keeps the child a little longer under observation. So the little delay is not truly a disadvantage. In practice this was found to be so, except in the case of children in the infants' room, where the taking of chest measurements was found to be slow and useless. Through the generous assistance of the Government Statist, many of the results have already been published.

The principle of our work in Victoria has been that it should be thoroughly and carefully done, attention being given as far as possible to all its aspects. We took stock at intervals of all our findings, gradually developing and modifying our methods as we went. Working, as we have done, together, three medical officers in a team, we have put everything to a hard test and all conclusions have had to stand the severest criticism. Nothing has been undertaken rashly, but only after very careful consideration.

In regard to the legislative procedure, the Act as it stands simply permits of the establishment of medical inspection, but does not make it compulsory, either for the Department or for the parent.

The result is that whilst many children benefit, the staff has not yet been large enough to reach more than a small proportion of the children in the State. In the same way, medical examination cannot be enforced in school, but in actual practice objections have been so rare that compulsion has not proved itself to be necessary.

Far more necessary do we find the problem of compulsory treatment. Sometimes the parents refuse to take their children for treatment in cases where they are seriously suffering and are handicapped by easily remediable conditions. Such was the plight of a child we found who had both ears running and who was becoming progressively deaf. In the case of gross defects of vision and squints the parents at times refuse glasses because they do not like their appearance.

The scope of medical inspection in Victoria includes more or less of the following duties:

(1) Medical examination of children in elementary State schools, Roman Catholic schools and special schools (*e.g.*, open-air schools, schools for mentally subnormal children, the Deaf and Dumb Asylum, the Blind Asylum and the Epileptic Colony); also medical examination of truants and neglected children.

(2) Medical examination of pupils in State high schools and higher elementary schools.

(3) Medical examination of teachers for appointment to the public service and on sick leave.

(4) Systematic lectures on hygiene to students for the diploma of education at the University, students at the Teachers' College, at the Domestic Economy College and at summer schools.

For these special demonstrations and excursions are arranged, as well as visits to schools and to public institutions. Short courses on hygiene are also given to teachers in physical-training classes and swimming classes. Lectures are given on first aid and on the care of children, with additional addresses to parents.

(5) Setting and correcting of examination papers for the above-mentioned courses, as well as occasional papers in anatomy and physiology.

(6) Investigations and reports when required on school buildings, furnishings, equipment.

(7) Epidemic diseases are investigated and reports written when required. In special instances swabbing has been undertaken in connexion with epidemics of diphtheria and cerebro-spinal meningitis, but every endeavour is made to have such cases dealt with by the Public Health Department.

(8) Supervision is exercised over the work of school nurses, bush nurses, special schools and the cleaning and disinfection of State school buildings.

(9) Medical representation is often required on Departmental committees and here the services of the school medical officer are frequently requisitioned.

It will be noticed that the beginning of medical inspection sprang from the Public Health Department in Victoria. When it was fully established, it was given over to the Education Dpeartment. Many differences of opinion exist as to which Department is the more suitable. As a public health measure, medical inspection claims and can find a place under the Health Department. On the other hand, as the work is at present carried on only among teachers and children in schools, it is found in practice to be more convenient to have it connected with the Education Department.

The work of medical inspection, however, cannot be isolated from that of other departments. In regard to infectious diseases the School Medical Officers must work in close association with the Public Health Department. It must not be expected that this would relieve the Public Health Department of its own work amongst school children, as an epidemic of infectious disease is not confined to children of school age, but is a community problem. In most cases control from the home will give the most far-reaching and best results. But it is very important that the closest correlation and co-operation should exist between the two Departments in regard to the control of these diseases. Effort is only wasted by both unless it is based on similar principles. Combined effort would, on the other hand, give strength if used towards the same end, namely, the ultimate extinction of these infections and, with this, the diminution of disease and improvement in the health of the community.

Similarly we become associated with other departments and institutions. In schools we find many children under the control of the Neglected Children's

Department. In these cases, of course, no difficulty in found in getting treatment for defects, as medical treatment is provided by the State, if only the foster mother takes the trouble to avail herself of it.

The object of medical inspection is the production of a healthy, virile pepole, developed to their full extent physically and mentally, in whom no disease or defect shall get a chance to exist. It has long been agreed that this is only possible in the adult, provided we start with the child. But the question is whether it is early enough to start with the school child, when we find that already at this age a large percentage of defects exists. It is now agreed that we should begin with the control of the child in baby-health centres and continue it through the kindergarten stages on to school life.

Already we have beginnings in this direction by direct representation on these committees. The medical inspection of kindergarten children done by an outside medical practitioner is uniform with that of the Education Department and is organized by the Education Department. This gives the nucleus of what should be a Department of Child Hygiene. The relationship of physical training to medical inspection is not so close as it should be. The boys in our schools receive their physical training as junior and senior cadets from the Defence Department. The Education Department, however, has arranged for the instruction of its women teachers in physical training and, through them, all the girls in our schools get similar training.

With regard to the physical training as thus instituted in our schools, we consider that it has been of tremendous value in improving the muscle tone and general bearing of the normal healthy child. On the whole, the work is well graded, but some of the courses of training for women teachers have shown themselves to be too strenuous for some of its members. Further, we think that the time has come when more attention should be given to postural deformities (round back, lateral curvature, flat feet, etc.).

Figures of the number of children examined and the percentage of defects found, with full details, are published in the *Annual Report of the Education Department* for the past ten years.

In addition, many articles on school hygiene, etc., have been published.

In Victoria at present our system of medical inspection extents only to the identification and notification of defects. Except that it increases the responsibility of the parent and gives the intelligent and conscientious parent the opportunity of providing treatment, of itself it has no direct result, as further action is purely voluntary. Every endeavour is made to impress on the parent and teachers the value and necessity of treatment. Within the city area we have been able to push treatment further by getting our school nurses to follow up all cases in which there has been delay by visiting the homes and interviewing the mothers and finding out why the children have not been treated and explaining to mothers the advantages of treatment and the facilities that exist. In cases where the mother is unable (either through ill health or through having to support herself and children), the nurse with the consent of the parents takes the children to hospital for treatment.

In the city every facility exists for the child to obtain necessary treatment. If parents can afford to pay for it, they have a large choice; if not, they can still obtain the best medical and expert attention at any of the large metropolitan or special hospitals.

In the case of dental caries, however, the position is not so satisfactory. Whilst there are plenty of good dentists for those who can afford to pay, for the necessitous the only opportunity for treatment is at the Dental Hospital or the Children's Hospital, where some are treated free, while for others a small charge is made. But at the most, they can deal only with a very small percentage of those requiring attention. This is a great difficulty in school work, which we expect will soon be partly overcome by the establishment of a central school dental clinic.

In country districts and rural areas, even those who can afford to pay, cannot procure treatment for many defects. A general practitioner is within reach of all, except those in the most outlying districts, so that treatment of general ailments and nose and throat defects is within the reach of people who can afford to pay. But facilities for free treatment grow less as one goes farther out and, except in four or five of the largest country towns, a specialist for treatment of eye and ear diseases is not to be had for love or money. As a substitute, however, we find the travelling optician who recommends and supplies all kinds of glasses.

In our northern hot and dry areas, epidemics of infectious eye conditions are frequent. To do justice to the eyes of children in these outback country districts, we urgently need a travelling oculist well equipped in the interests of the community. Similarly, outback dental treatment is scarce and seldom conservative and is only available by travelling long distances. For these districts we have constantly asked for a travelling dental clinic to be provided in the interests of the pioneers who sacrifice so much by opening up the undeveloped areas in our State.

In every attempt to move along the lines of preventive medicine, whether it be in relation to infant mortality, infectious diseases, tropical diseases or industrial health and efficiency, we notice that the first suggestion always is to extend the teaching of hygiene in schools. But surely, before this can be done, we should see that there are facilities for studying hygiene.

Except for a lengthy course for the Diploma of Public Health, no post-graduate classes exist in preventive medicine or hygiene, so that no standard is set and it is very difficult for most of us to find out what is scientifically true and what should be taught.

A small beginning has been made in this direction by the addition of hygiene to physiology in the course for the science degree at the Melbourne University.

When medical inspection is introduced into a State, it should be efficiently done, so that it will command respect and trust and be of real value as a health measure.

As to what is a maximum and what is a minimum of efficiency, that is a matter on which there is not

yet any agreement. That there are many differences can readily be seen by comparing work in the various States. Whilst in some States every child is seen by the school doctor once in three years, in another, perhaps, only one-tenth are reached during the whole of their school life. In some, every child is undressed and completely examined. In others attention is given as a routine only to the special senses. Some school medical officers take measurements, some ignore them; whilst some examinations are thorough, others are probably desultory.

How, under these conditions, can any equality of standard or anything approaching uniformity be attained? Comparisons are impossible and much of the value of the work is lost.

In an attempt to limit some of these disadvantages, the late Dr. Willis, of New South Wales, organized an inter-State conference of school medical officers, when we were able to discuss many of the difficulties and problems. This was found very stimulating and valuable; but, as yet, there has been no opportunity of repeating it. Such a conference is, of course, only the loosest link; still it helped, as "seeing better" nearly always leads to "doing better."

III.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN IN WESTERN AUSTRALIA.

CONTRIBUTED BY SPECIAL REQUEST BY DR. R. H. M. JULL, SCHOOL MEDICAL OFFICER.

Historical Development.

In 1906 the Principal Medical Officer appointed a temporary medical officer for schools to examine the children in schools in the larger towns of the State and to report as to whether a permanent system of school medical inspection was necessary, and, if so, what form it should take. This officer saw over 3,000 children and in 1907 recommended that the work should be made permanent and that it should be carried out partly by full-time officers and partly by "contract" officers.

The recommendation was accepted and it was decided to carry on the work as a branch of the Public Health Department and not to make it a branch of the Education Department as was usual elsewhere. This was done because it was felt that all matters pertaining to the health of the community should be dealt with by the Health Department.

Although the arrangement makes the closest cooperation between the work of the school medical officers and the Education Department more difficult of attainment than it would be were the medical inspectors directly in touch with that Department, it does not make it impossible and by degrees this correlation will be brought about. That the work properly falls under the Health Department must be realized by those who see in it a necessary link in the chain of preventive medicine, which should bind together all stages of life from the cradle to the grave.

The report of the examinations made in 1906 and 1907 was published in the annual reports of both the Health Department and the Education Department. Subsequent reports have been published in that of the Health Department only. To the writer this appears a retrograde step, since those who read the Eduation Department's reports now, see only a few comments on medical inspection and the number of children examined, instead of a full report comparable with those issued by other education departments. Such persons could no doubt obtain the reports of the Health Department, but for those at a distance this would entail considerable efforts and might even not be possible at all. Although it was intended after 1907 to carry on the work of inspection continuously, the difficulty of procuring medical officers at one time and shortage of funds at another greatly interfered with the work. Various full-time officers were appointed and held the position for a few months at a time, but until 1911 no attempt was made to obtain the services of part-time officers. During that year a scheme was drawn up under which district medical officers and medical officers of health were empowered to act also as medical officers for schools at a *per capita* grant, plus mileage rates in country districts.

As a result of this and the fact that one full-time medical officer was working in Perth and one in Kalgoorlie, 13,198 children were examined during the year 1912. But as there were 32.959 children attending the primary schools alone, the insufficiency of the system is apparent. During succeeding years the numbers dropped continuously, owing to financial stress and the shortage of doctors during the war, until in 1917 a full-time medical officer was appointed for the metropolitan area. This officer has been at work ever since. The appointment was made a permanent one in 1918 and thus the continuity of the work is assured.

In 1910, as the result of the attention drawn by the medical inspectors to the extensive prevalence of dental caries among school children, the members of the Odontological Society offered their services for two hours daily at a part-time free clinic for indigent children. This clinic was opened in 1911. The Government provides a room and equipment, the necessary materials for treatment and a nurse in attendance. The work has been carried on continuously, though during the years of war only a very partial service was obtainable. During the last year it has been placed upon its pre-war basis.

The community is much indebted to the members of the Society for their good work, but valuable as it is, it reaches a very small proportion of the children in need of treatment; it is not possible to deal with more than one thousand each year.

Recruiting Grounds for Officers.

These are obtained by advertisement throughout Australia.

Legislative Basis.

The work is carried on under the provisions of the *Public Health Act*, 1911-1919, which outlines the details (Section 292).

Methods Employed.

When a school is to be examined a sufficient number of recording cards for the children on the roll is

sent to the head teacher. Each child is given a card to take home that the personal particulars as to age, previous illnesses and so on for which spaces are provided on the front of the card, may be filled in by the parents. The cards are returned to the teacher of each class and are brought by the owner into the inspection room when the child comes up for examination. On the back of the card are three columns for entering the results of the first, second and third examination. Each child is supposed to be examined three times during the eight years it is at school, as an "entrant," an "intermediate" and a "leaver." Along the left side of the card are placed the words indicating the "system" examined, ears, eyes, heart, etc.. The examination occupies about ten minutes for each child. The height and weight are taken, the sight and hearing tested, then practically the whole body is inspected from crown to sole. This latter examination is made behind a portable screen; the children to keep on at least one garment, except in such cases as it may be deemed necessary to remove all the clothes. When this is done the other children are sent out of the room. The sexes are, of course, examined separately. The entries on the card are filled in by the school nurse, who accompanies each full-time medical officer, as dictated by the doctor. At the end of an examination the records on the cards are tabulated and a report written on the results found. The cards are eventually returned to the head teacher, who keeps them under lock and key as "confidential documents." When a child is transferred to another school the card is sent to the head teacher of that school. A report is also written on the state of the school buildings and the playground. Parents receive written notices of the defects discovered and are told whether they need medical, dental or home attention. A list of the children and their defects is also sent to the head teacher of the school several weeks after the examination is over; he is asked to find out whether the children have received treatment or not and to enter the reply against each child's name. These lists are returned to the Health Department and in those cases where treatment has not been obtained, a second notice is sent to the parents, again advising them to seek advice and treatment. Further, the school nurse visits the homes when opportunities offer and urges parents to obtain treatment.

The Medical Officer when in a school makes any suggestions which are necessary as to the best use of ventilating devices, lighting of rooms, seating of children and so on. Attention is drawn to any defects or alterations which are needed in the school buildings or grounds in the report dealing with the buildings.

It is also part of the duty of the medical officer to lecture on hygiene to the students in the training college, to examine and report upon "special" cases when desired to do so by the Education Department and to write articles on health matters occasionally for the *Education Circular*.

Leaflets on the care of the hair, care of the teeth, defects of the nose and throat and posture defects are issued to the parents of children suffering from vermin, dental caries and so on. After all the children in a school have been examined, the parents are asked to meet the medical officer of schools who holds a brief "talk" with them as to the aims and objects of the examination and seeks to enlist their co-operation in the work. The teachers are always welcomed to these "talks" and quite a number attend them.

Objects in View.

The main object is the welfare of the individual child and through the child the betterment of the race.

Were all the school children of the State examined regularly every three years and the defects found cured or minimized by treatment, an immense amount of existing and potential bad health would be prevented and the whole standard of good health be raised, not only in the case of a single generation, but in that of the following one. It is during the eight school years, which are also those of rapid growth, mental and physical, that the permanent bias of the minds and bodies of the children is laid. It should, therefore, be directed towards health and an understanding of the reasons for personal hygiene, the hygiene of buildings and playgrounds and the best ways to obtain and maintain a high standard of well being.

Another objective is the instruction of teachers and parents in child culture. The child is still too much regarded, particularly by teachers, as a mind into which knowledge must be forced, instead of a body containing a mind, the receptiveness of which depends very greatly upon the condition of the body. A subsidiary objective is the compilation of statistics from which can be deduced the influence of climate, urban and rural, and other conditions on healthy growth, general development and numerous other factors.

The Measure of Success Attained.

This falls far short of the ideal aimed at or even of what might reasonably be expected in a highly civilized country. Only about 30% of the children notified as needing treatment receive it. In a proportion of these "treatment" not infrequently means only the cleansing of a verminous head or the removal of a carious tooth, while serious defects of sight or hearing are left untreated.

Reforms Desired.

1. (*a*) Increased facilities, particularly in country districts, for the medical treatment of the defects notified. Wage-earners, especially those with large families, cannot afford to pay ordinary fees for the removal of adenoids, examination of eyes (which often means, in addition, the buying of spectacles) or prolonged treatment of ear defects, with or without otorrhœa.

(*b*) Much increased facilities for dental treatment. A full-time dentist is to be appointed shortly in the metropolitan area, but as 85% of the school children have carious teeth, it is obvious that his efforts, even combined with the free part-time clinic previously referred to, can at best reach a small proportion of the mass. A dental hospital is needed in large centres, whilst in the country districts, either several full-time travelling dentists or a number of subsidized dentists would be best.

2. An extension of the work is desired, but until the greater facilities just outlined are available, the

mere discovery of defects and their notification will be of little service, either to the children, their parents or the community generally.

A useful method, which might be carried out by a comparatively small medical staff, would be to concentrate on one widely spread defect, such at dental caries.

(*a*) Its causes might be investigated. Of these we are still very ignorant. The influence of diet alone, pre-natally through the mother, in infancy and in childhood, is worthy of much consideration.

(*b*) The whole community could be educated by lectures, illustrated by diagrams or lantern slides, and given to parents, teachers and children. These would explain its known causes, its evils, its prevention and the necessity for early treatment by filling. Such concerted efforts would undoubtedly result in much increased oral cleanliness and improved general health, even though treatment centres were still not available in adequate numbers.

3 (*a*) A much larger staff of full-time medical officers. In the metropolitan area alone there are 26,000 children attending the schools. If each of these is to be seen even once every three years, three medical officers should be constantly at work. A fourth should be available to lecture to teachers and parents, to examine children in special cases and generally to organize and supervize the whole of the medical work connected with school children. Another full-time officer is needed for the goldfields and one to visit such outlying schools as cannot be reached by district medical officers or medical officers of health. There should be six in all. At present there is one; another is shortly to be appointed.

(*b*) A much larger staff of nurses. Two at least should be attached to each school medical officer. They would take it in turns to "follow up" cases and make special examinations for pediculosis or to assist the medical officer in the routine examinations. Experience here, as elsewhere, proves that the visits of school nurses to the homes of the children and the persuasion they bring to bear upon parents and guardians are a great factor in obtaining treatment of defects. Frequent examinations for pediculosis also rapidly reduce the percentage in any given school.

4. Once again. when facilities for treatment are available, compulsory clauses should be added to the *Health Act*, under which neglectful parents would be prosecuted for not obtaining treatment of notified defects. Prosecutions can now be carried out against the neglect of "verminous heads"; but much wider powers are needed to cover other defects, such as poor sight and otorrhœa, to mention two only. Blind, deaf and deaf and dumb children were recently brought under the scope of the *Education Act*, but unless the parents choose to have them treated medically, even where benefit is practically certain, there are no means of giving the children the advantages they might otherwise enjoy.

5. The more efficient training of teachers in hygiene. Their attitude and personal example are of the utmost importance, since it is from them the children, while in school, take their "tone"; the general cleanliness, tidiness and healthiness of a school depend almost entirely on the standard set by the head teacher, as all school medical officers know.

6. The inculcation of a public health spirit. Dirty heads, dirty hands, untidy playgrounds, badly kept privies should be looked upon as a disgrace to everyone in a school. Teachers and children should feel that individual cleanliness and the care of public conveniences are part of the community service which each owes to all associated with them.

7. The appointment of a psychologist or medico-psychologist for the detection of subnormal children and the provision of special training and, where necessary, segregation homes for such children when they have been detected. This, from a racial point of view, is of the utmost importance.

During 1910, 1911 and 1912 special classes for a few such children were held in Perth and Fremantle. They lapsed, partly because a number of parents objected to sending their children to such classes, because they were "marked"; partly because of the difficulty of transport from outlying suburbs; partly because the children were removed to distant parts of the State.

A further attempt to deal with these children is overdue. An Act on the lines of the British *Mental Deficiency Bill* is desirable.

IV.

MEDICAL INSPECTION IN THE STATE SCHOOLS OF TASMANIA.

CONTRIBUTED BY SPECIAL REQUEST BY DR. E. M. HAWKINS, MEDICAL INSPECTOR OF SCHOOLS, TASMANIA.

In 1904, Dr. Elkington, then Chief Health Officer of Tasmania, made an inquiry into the sanitary arrangement of State school buildings. He suggested that the school children also should be medically examined. From 1905 onwards lectures on hygiene were given by him with the co-operation and support of the Director of Education. In 1906 an extensive medical examination of State school children was carried out by officers of the Public Health Department, the result being that a system of medical inspection of State schools was commenced early in 1907.

At first the work was organized as a branch of the Education Department, but was directed by the Chief Health Officer, thus avoiding duplication of expense. Later on this was found to be unsatisfactory and it is now wholly directed by the Education Department. The officers were then two part-time officers and one full-time officer. About 1910 two nurses were appointed. The part-time officers visit the city schools once a week and examine all new pupils. The names of all children found to have physical defects and the nature of the defects are recorded and a notice is sent to the parents. The school nurse then visits the homes of such children to advise the parents to have the children medically treated. In 1914 two additional full-time officers were appointed. These devote their attention to Convent schools and such private schools as wish it in the cities, to the suburban and country schools. In these schools every child present is medically examined and when a defect is found a report is sent

to the parents. The teacher is notified of the intended visit of the Medical Inspector and an invitation is extended to the parents, especially the mothers, to meet the inspector. These meetings are helpful to the inspector and also to the mothers, many of whom walk several miles to attend and later on express their gratitude for the opportunity of having their children examined.

Just after the appointment of the two new officers, the Chief Medical Officer was granted extended leave. She has since resigned and the work is carried on quite satisfactorily by the remaining two officers.

In 1916 it was decided to extend inspection of the children and provide dental treatment for those who desired it. In 1917 two dentists with an assistant for each were appointed. Dental clinics were fitted up in Launceston and Hobart and the dentists divided their time between the cities and the country. In the country the usual practice was to make a country town a centre to which the children within a radius of ten miles could come. This did not prove satisfactory, as very few of the children took advantage of treatment. This year (1921) two more dentists have been appointed who are to spend their whole time in the country, visiting as far as possible every school, the other two remaining in the cities.

Under the *Education Act* the Minister of Education has very wide powers. The regulations allow him to appoint all officers and to prescribe the duties and salaries of each.

When a vacancy occurs and a part-time officer is required, the position is advertised in the local press. When it is desired to fill a vacancy for a whole-time officer the advertisement appears in the local and mainland lay press. One of the present whole-time officers is a graduate of the Adelaide University, the other of the Melbourne University. A former officer graduated at Sydney.

For the routine work of inspection a medical register is employed, which is kept among the records of the school. At each visit, which takes place at at intervals of about two years, the name, age, sex, class and previous illnesses of each child present is entered. The throat is examined and the presence of such conditions as enlarged tonsils, pharyngitis and indications of adenoid growths noted and recorded. If these conditions are sufficiently marked to interfere with the child's health and educational progress, a notification is sent to the parents. To test the vision Dr. Halley's modification of Snellen's test types is used, vision less than $^{6}/_{9}$ being notifiable.

The hearing is also tested, the whisper test at a distance of 18 feet being the method used and anything less than $^{7}/_{10}$ is considered defective.

The skin and hair are also inspected and attention paid to cleanliness or the signs of skin diseases. In some districts scabies is common.

It is not possible in Tasmania to examine with a stethoscope the heart and lungs as a routine. Many of the schools have only one room and an attendance of 60 to 80 children. The medical inspection has to be undertaken in a shelter shed or on an open verandah and very often weather conditions are too inclement to have the children undressed.

In schools which have a class room, arrangements can generally be made for the inspection to take place there, or in schools which have an attendance of 20 or thereabouts, lessons may be taken in the shelter shed until the medical inspection is over.

Heart and lungs are stethoscopically examined where a child has had diphtheria, scarlet fever or rheumatic fever.

The Medical Inspector also prepares a report on the school buildings under the headings of:

(1) Lighting, orientation, amount and management.
(2) Ventilation and its management.
(3) Heating.
(4) Cleanliness.
(5) Furniture and seating arrangements.
(6) Overcrowding.
(7) Sanitary arrangements and condition of the exterior of the buildings.

If an infectious disease occurs in a school the Director is notified and a copy of the notice is sent to the Medical Inspector. If the disease be diptheria, instructions to visit the school are generally given and at this visit swabs are taken for the purpose of detecting and excluding "carriers." If sent on a special mission the Medical Inspector visits other schools in the neighbourhood and returns to headquarters as usual at the end of the week. The object of medical inspection is very practical. Children are a country's best assets and systematic medical inspection detects those who are physically unfit and thus unable to make the best use of the educational facilities provided for them. In the cities where the nurse visits the parents, in some cases several times, the results are very good, almost every child notified receiving treatment.

In the country there is no following up and the number receiving treatment is unknown, but considerable numbers are taken to a medical practitioner and almost without exception those who have defective vision, receive treatment.

Since inspection was instituted there has been a steady improvement in cleanliness. With very few exceptions, the children look well nourished, well clothed and clean. During my first year of office I had to report 70 cases of pediculosis; during last year I did not see one.

With reference to the school buildings, medical inspection has also brought about good results. The new buildings are well lit with windows facing the north east. The facilities afforded for ventilation are also efficient and generally used to good advantage.

The teachers during their training receive instruction in school hygiene, in which they are required to pass an examination. They are, therefore, able to put to the best use the facilities provided for the hygienic management of the school of which they have charge. With respect to the schools which have been built for many years, the results have been an improvement in hygienic arrangement. Many have been remodelled and now fulfil all requirements and gradually the numbers of those which are not well ventilated or which have the old-fashioned long desks and forms, are becoming less.

Many schools are at present overcrowded, but schools are being built and added to as fast as pos-

sible and it is hoped to overcome this difficulty in the near future.

Very many children take advantage of the free dental treatment provided for them. This has resulted in more children caring for their teeth by cleaning them regularly and consequent benefit to their general health.

Much has been done for the benefit of the health of the community, but much more remains to be done, especially regarding the communicable diseases. Sufficient care is not taken to exclude "contacts" and if excluded from schools, they are permitted to frequent other public places.

Very little has yet been done in Tasmania for the mentally deficient children. In two of the larger schools special classes for these affected little ones exist under specially capable teachers. But for those in the country nothing is done. They attend school, learning very little, occasionally being promoted until they leave school the day they reach the age of fourteen years.

No article dealing with the school medical service of Queensland is offered, because, as has been indicated in a previous article, this service is temporarily being conducted by part-time medical officers.

That no article from Dr. Gertrude Halley, the School Medical Officer of South Australia, is included in this series is due to a most unfortunate and peculiar concatenation of circumstances, over which Dr. Halley had no control.

The Mental Hospital Service.

As is pointed out in another part of this issue an invitation was addressed to the chief medical officers responsible for the hospitals for the insane in each State for an article on the scope of the service, on its historical development, on the machinery devised to attain the end in view and on the opportunities offered to the medical officers to attain expert knowledge and to perform important national services. Unfortunately the majority of those invited were unable to comply with our request. In these circumstances we offer a short summary of the salient details of the services, compiled in a general manner. In introducing this subject we would remind the younger generation of medical graduates to whom we address ourselves more particularly, that the science of psychiatry is one with which every medical practitioner is necessarily brought into contact from time to time. A person with a diseased mind or with a temporary disturbance of the mental functions has to be treated by special methods. The misfortune of disease is accentuated when the symptoms include a loss of control of behaviour or an inability to exercise the higher mental faculties. Psychiatry embraces two distinct problems. The first is the study and control of the pathological processes, hereditary or acquired, which are manifested at times by symptoms of insanity. This study is unfortunately not far advanced and much remains to be done to disclose the real nature of many of these processes. The second problem is the study, recognition and control of the manifestations of insanity. When the signs of mental disease can be removed, the gain to the individual and to the community is immeasurable. It requires expert knowledge and prolonged experience to be able to determine when a person who has been insane, may be released from restraint and treatment without danger. The modern mental hospital provides the means for the carrying out of the treatment by experts with this end in view. Hitherto this subject has received but scant attention in our medical schools. The knowledge of psychiatry required of students has been but a minimum and the subject has been an optional one at examinations. Very inadequate facilities are provided for teaching students, with the result that the vast majority of medical practitioners possess little or no understanding of the problems involved. This naturally reacts to the detriment of the community in general. The Department of the Inspector-General of Mental Hospitals of New South Wales has recently made representations to the Senate of the University of Sydney for the establishment of a chair of

Officer.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.
Inspector-General	£1,350	£1,500	1,000[1]	——	£804, with house, and allowances	——
Medical Superintendent	£750 to £900, with allowances valued at £124 *per annum*	£700 to £800, subject to a charge of £100 for rent, fuel, light, water, vegetables, milk and laundry	£700, with allowances valued at £120 £600, with allowances valued at £90	£700, with house, light and part rations.	£708, with house, and allowances	£657, with allowances, house, fuel and light, valued at £93
Senior Medical Officer	£600, with allowances valued at £100 *per annum*	£576 to £650, subject to a charge of £72 for rent, fuel, light, water, vegetables and laundry.	£450 and £500, with allowances valued at £90	——	£408 to £528, with board and allowances	——
Resident Medical Officer	£400 to £550, with allowances valued at £100 *per annum*	——	——	——	——	——
Junior Medical Officer	£350, with allowances valued at £100 *per annum*	£492 to £552, with partly furnished quarters, subject to a charge of £60 for rent, fuel, light, water, vegetables and laundry.	£260 and £450, with allowances valued £90	——	£320, with board and quarters	——

[1] The Inspector of Hospitals for the Insane holds the position of Medical Superintendent of the Goodna Hospital and receives for both offices £1,000 and allowances valued at £140 *per annum*.

In New South Wales and in Victoria a whole-time Pathologist is employed. He has the grading of a senior medical officer.

psychiatry. The Senate has wisely determined to adopt this course and to allot to the subject of psychiatry a more adequate place in the medical curriculum. In Melbourne similar demands have not yet received such favourable consideration by the Council of the University.

The largest mental hospitals in the Commonwealth have accommodation for from 1,000 to 1,400 patients. There are nine mental hospitals in New South Wales, eight in Victoria in addition to one institution for imbecile children, three mental hospitals in Queensland, one in South Australia in addition to an asylum for mentally defective children and one mental hospital each in Western Australia and Tasmania.

In New South Wales the department assumed control in June, 1920, of the former military hospital known as No. 28 Australian Auxiliary Hospital. This hospital is now attached to the Mental Hospital, Callan Park, and is reserved for ex-soldiers. This is a continuation of the policy of the department to provide special facilities for treatment of men whose disability has arisen as a result of war service. The patients are therefore spared from association with the ordinary mental patients and their relatives are freed to some extent from the stigma which unfortunately attaches to persons who have been inmates of an ordinary mental hospital.

Arrangements are almost completed for opening the buildings known as Broughton Hall as a hospital for the treatment of voluntary or uncertified patients. The buildings were previously used as a military hospital for soldiers suffering from shell-shock and similiar affections. They were handed over to the New South Wales Government under arrangements made with the Commonwealth Government at the time the hospital was established. It is fully equipped for its intended purpose. A start has been made by transferring as many as possible of the voluntary patients under treatment in the various mental hospitals. Broughton Hall will in future be reserved for voluntary patients.

From the following table the reader will gather the plan of the medical service in each State.

The Naval and Military Medical Services.

No great modern war is possible without a well equipped and efficient medical service. The ancient custom of allowing Nature to sport her caprice and either cure or, more frequently, kill the surviving victims of war has gone for ever. Huge medical organizations for the prevention and cure of injury and disease exist in association with every navy and army. The Naval and Military Medical Services of Australia showed during the course of the great war what the medical profession was capable of doing in the great military emergency. The halo of glory which surrounds the Australian Imperial Force, now no longer a tangible thing, but a brilliant legend of history, shines in no little degree on the Australian Army Medical Corps. Yet this branch of the army was, like every other branch, not guiltless of mistakes and, becoming conscious of error, was frequently impeded in the institution of reform, both by its own machinery and that of the combatant forces. The war is over and the peril which threatened us only a few years ago is now passed. We are in danger of lapsing into the old condition of *laissez faire* and unpreparedness in which we were caught napping at the outbreak of war. To prevent lethargy and to awaken interest in both the navy and the army, so far as the medical organizations are concerned, have recently been the subject of serious consideration by the Federal Committee of the British Medical Association. The Federal Committee requested the Acting Minister for Defence to consider favourably three suggestions. The first was that the Director General Medical Services be paid a salary sufficiently large to invite men of outstanding ability to apply for the position. The position of Director-General is now vacant and applications have been called for the position at a fixed salary of £1,500 *per annum*, including all allowances except travelling. This salary is not as large as we would have wished. It is hoped that the Defence Department will see fit to increase it later on.

The second request was that the Director-General should have direct access to the Minister and should not be compelled to report through the Adjutant-General. It was held that he should have a seat on the Military Board. If this proposal be unattainable, he should at least be permitted to be present at meetings of the Board and be allowed to take part in deliberations affecting his service.

The third request was that the Minister allow the Federal Committee to see the report on the reorganization of the Army Medical Services before it is finally promulgated. Unless the profession were satisfied with the general terms and conditions of service, the Association would be unable to assist the Department of Defence in making the new services a success. To this the Minister replied with a qualified promise.

It was also requested, incidentally, that medical officers working in military hospitals which were about to be taken over by the Department of Repatriation should be paid at the same rate as the medical officers working under the direct control of the Repatriation Department. It is necessary to remind our readers that on April 1, 1921, the Australian Imperial Force was officially disbanded and at the same time the various military hospitals came under a new system of control. Under this arrangement the hospitals were no longer financed by the Department of Defence, but by the Department of Repatriation, although the military organization was retained to carry out the executive and medical duties. The present rates of pay granted to whole-time medical officers in military hospitals are inadequate and it is hoped that a salary more commensurate with the value of the duties performed will be granted.

We understand that it is the policy of the Defence Department to utilize the garrison hospitals for purposes other than those originally intended. With the closure of the general military hospitals, the alternative to treatment of military patients in garrison hospitals is treatment in hospitals under civil management. This would rob the officers of the Army Medical Corps of the control of their own patients and would be regrettable. An interesting arrangement (not generally known) exists between the Naval and Army Medical Services, whereby a ward in Caulfield (No. 11 Australian General) Hospital has been set aside for occupation by naval ratings during illness. The medical work in this ward is carried out entirely by naval medical officers. The garrison hospitals were the scenes of excellent medical service during and immediately following the war and as training schools for medical men they were of great benefit, both to the profession generally and to the Army Medical Corps in particular.

The Army Medical Service as a Career.

A large proportion of the medical officers who served overseas, have been granted commissions in the Australian Military Forces. In the immediate future the younger generation will be required to fill at least some of the positions which the returned medical officers have held. A certain number will be required as full-time medical officers and it is hoped that these will espouse the service as a permanent career. To this end it is hoped that the conditions will be made far more attractive than they have been hitherto. Up to the present a full-time medical officer has been granted the rank of captain on enlistment and has been paid at the rate of £1 2s. 6d. and 3s. field allowance *per diem*. On receiving his majority he was paid at the rate of £1 10s. *per diem*, with a similar field allowance.

In addition to full-time appointments, a large number of medical officers will be required for part-time duty, either at military hospitals, on the strength of field ambulances or as area medical officers. Medical practitioners who, for various reasons, are unable to carry out active part-time duties may join the Australian Army Medical Corps Reserve, so that their services may be available in case of emergency. We would impress upon those who select medicine as a calling, the necesstiy of devoting some time to the service of the Empire. Every man who joins the Army Medical Corps or the Reserve is doing something to insure the stability of the Empire, without which Australia would be at the mercy of her potential enemies.

Royal Australian Naval Medical Service.

The Royal Australian Naval Medical Service contains permanent officers, officers for temporary service and emergency officers. For the permanent service the candidate must be not less than 21 nor more than 28 years of age and he will be required to signify his readiness to engage in general service at home or abroad. The candidate is

required to submit himself for competitive examinations to an examing board appointed by the Naval Board on the recommendation of the Universities of Sydney, Melbourne and Adelaide. No candidate is permitted to sit more than twice for this examination. The candidate must also be the son of a natural born British subject and must be registered or entitled to be registered in one of the States of Australia.

On entry to the service the candidate receives the rank of Surgeon-Lieutenant, but remains a probationary officer for a period of twelve months. His seniority, however, dates from the time of probationary appointment. As a rule, the young naval surgeon is appointed to one of His Majesty's Australian Depôts or to a ship which has a senior medical officer. At the end of twelve months the surgeon receives his permanent appointment and is required to discharge his duties in shore establishments, harbour ships and sea-going ships in rotation, as far as the exigencies of the service permit. At the end of eight years the officer is promoted to the rank of Surgeon-Lieutenant Commander, provided he passes a qualifying examination. For promotion the surgeon must have spent three years at sea and have been recommended for advancement by the Director of Naval Medical Services. Distinguished service or conspicuous professional merit may effect promotion at an earlier date.

After eight years' service as a staff surgeon the officer is promoted to the rank of Surgeon Commander. This promotion is conditional upon his having served as a staff surgeon for three years at sea, upon a recommendation for promotion by the Director of Naval Medical Services and that he shall not have declined service, except for reasons acceptable to the Naval Board. Accelerated promotion is granted for distinguished service or conspicuous professional merit.

The rate of pay is on a sliding scale and recently has been considerably increased. A probationer, on entry, is paid active and deferred pay at £547 10s. *per annum*, exclusive of allowances. After three years' service he is paid a total of £620 10s.. On promotion to the rank of Surgeon-Lieutenant Commander he receives active and deferred pay aggregating £748 10s.. This is increased to £803 after three years' further service. When the officer is promoted to the rank of Surgeon Commander he receives in all £967 5s. *per annum*. This pay is increased to £1,067 2s. 6d. after three years, to £1,149 15s. after six years and to £1,222 15s. after nine years. The former arrangements in regard to "Uniform Allowance" and "Married Allowance" have been discontinued. At present Surgeon-Lieutenants on first joining are granted a "Uniform Allowance" of £60.

Temporary medical officers are appointed in time of war or of other emergency. They are liable for six months' service or for service during the currency of a war and six months after its termination. They take the rank of surgeon, but are graded after the surgeons of the permanent service.

The Navy List shows that the number of sea-going medical officers of the permanent naval forces total 22, including one surgeon-commander, six surgeon-lieutenant-commanders and fifteen surgeon-lieutenants. The auxiliary services (Royal Australian Naval Brigade) include four surgeon-commanders, one surgeon-lieutenant-commander and fourteen surgeon-lieutenants.

Permanent or temporary surgeons are recommended to enrol their names on the emergency list of medical officers. The special conditions attaching to this service were published in *The Medical Journal of Australia*, August 31, 1918.

POST-GRADUATE TRAINING.

For many years it has been recognized that provision is needed for the continued medical education of practitioners whose daily life does not admit of clinical study in large metropolitan hospitals. The return of a very large number of young graduates from the several seats of war rendered this expedient urgent and impelled the University authorities to give favourable consideration to the proposal to establish regular post-graduate courses. The first definite move was made by the Victorian Branch of the British Medical Association. The Council of the Branch, after full discussion of the problem, approached the Faculty of Medicine with plans for the formation of a permanent post-graduate committee. In May, 1920, the committee with representatives of the Victorian Branch of the British Medical Association, of the Faculty of Medicine, of the Walter and Eliza Hall Institute of Research in Pathology and Medicine and of six of the large metropolitan hospitals set to work to prepare a post-graduate course for November of that year. The committee had the advantage of the experience gained during two courses that had been held for returned medical officers at the teaching hospitals of Melbourne in the year 1919. The success that had attended these earlier efforts and the fact that on each occasion over fifty practitioners had availed themselves of the opportunities offered encouraged the committee to organize an elaborate course, covering a wide field. The first course was held in November, 1920, and lasted for a fortnight. A fee of three guineas was charged; the participants received very generous value for their money. It is proposed to repeat this course each year. The Honorary Secretary of the Committee is Dr. J. W. Dunbar Hooper.

The question of establishing a post-graduate course has also engaged the attention of the Council of the New South Wales Branch of the British Medical Association during the latter months of 1920. The Organization and Science Committee of the Council, at the suggestion of the Dean of the Faculty of Medicine, have drawn up a set of proposals for the establishment of post-graduate courses. We understand that progress has been made in the preparatory work and that a well-considered course will be held in the teaching hospitals and University laboratories in January, 1922.

It is evident from this brief account of the steps taken in Melbourne and Sydney that only a part of the needs of medical practitioners in the Commonwealth in regard to post-graduate training is being covered. The attraction of the celebrated clinics of the European and American cities still holds sway. The advantages of study in many countries of the world cannot be questioned and every practitioner to whom the chance is given of a trip to the old country and to America, will be well advised to take full advantage of the facilities provided for continued study. The Post-Graduate Association of London, an association founded under the auspices of the Fellowship of Medicine, 1 Wimpole Street, London, W. 1, provides regular special courses of study for visting practitioners. Similar provisions are made by the West London Post-Graduate College, the London School of Clinical Medicine, the North East London Post-Graduate College and several of the special hospitals of the metropolis.

Visiting practitioners will find ample and satisfactory arrangements at the large hospitals in Manchester, Sheffield, Birmingham, Bristol, Edinburgh, Glasgow, Dublin and many other cities. Many Australian practitioners desire to add to their assets the higher degrees and diplomas of the ancient British universities and corporate examining bodies. Unfortunately we have no analogue of the diplomas of the Fellowship of the Royal College of Surgeons of England, of Edinburgh or of Ireland, and of the Royal College of Physicians of London, of Edinburgh or of Ireland. These degrees, especially the Fellowship of the Royal College of Physicians of London, are tokens of marked ability and of learning. In the absence of similar distinctive diplomas in the Commonwealth, it may be of value to those practitioners who can give up sufficient time for the purpose, to endeavour to gain the old-established prizes. The conditions which have to be fulfilled vary in the different cities. Details of the requirements of the several colleges are published in the Students' Number of the *British Medical Journal* each year.

The undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

Fergus Roy Cumming, Esq., M.B., Ch.M., 1921 (Univ. Sydney), 34 Kareela Road, Cremorne.

George Pigott Rogers, Esq., L.R.C.S.I., 1879; L.R.C.P. Edin., 1879, 76 Edgeware Road, Enmore.

The appointment is announced of Dr. G. Keith Smith (B.M.A.) and Dr. A. L. Lance (B.M.A.) as Honorary Assistant Surgeons to the Royal Alexandra Hospital for Children.

Dr. A. R. Bean has been appointed District Medical Officer and Public Vaccinator at Bruce Rock, Western Australia.

The Medical Journal of Australia.

SATURDAY, APRIL 30, 1921.

The Public Medical Services.

The majority of medical journals intended for the general practitioner devote one issue each year to information concerning medical education in all its branches. As a rule this information is stereotyped and repeated with but slight modifications year after year. While the repetition and the use of the same formula at relatively short intervals is advisable and purposive in the old country with its hordes of citizens hesitating before they choose a calling for their sons and daughters, it appears to us that the usefulness of the annual "education number" would be enhanced if greater variety were introduced in the scheme. Last year the main subject of detailed discussion was medical education proper. Full information was given concerning the development and activities of the medical schools in admirable articles contributed most willingly by the Deans of the three medical faculties. We owe these three *savants* our gratitude for their interesting and valuable articles. In addition, we dealt at some length with the subject of the reform of the medical curriculum. With this information available and not yet materially out of date, we hesitate to repeat the same story. In the present issue the responsible medical authorities of the public services have kindly contributed articles dealing with the scope and aims of their departments. Each writer has adopted a different method of presenting his or her facts. Unfortunately we have not been enabled to carry out the programme originally drawn up in its entirety. Including the lunacy services there are in Australia nineteen civil medical services. In one or two instances the heads of the departments were reluctantly compelled to excuse themselves for valid reasons. We regret that these circumstances arose to deprive us of the advantage of their valuable opinions and experience. Great difficulty was encountered in regard to the lunacy services and within a short time of publication we were compelled to relinquish the attempt to include these services in the scheme.

The object of these articles is to direct the attention of the undergraduate in medicine and of the young graduate to the public medical civil services. To-day the chief field of activity of the medical practitioner is general practice, the workshop of curative medicine. To-morrow preventive medicine will come into its own. It is essential that a greater number of practitioners should enter the public health, school and lunacy services, in order that an organized campaign of prevention may be launched in earnest. From the articles the views, ambitions and methods of those bearing the responsibility for the health of the community can be gleaned. It must be apparent to our readers that the outlook of this *Journal* on the wide landscape of preventive medicine does not coincide with that of some of the authors. The readers will reap benefit from the opportunity of having so many and such varied presentations of the subject. In tendering our thanks to the several authors for their willing co-operation in this endeavour, we are constrained to express regret that it has been necessary to present an incomplete series of articles.

It will be noted that little information is given in any of the articles concerning the financial prospects of the young graduate who adopts preventive medicine as his calling. The reason is not far to seek. At present the departmental medical officers are underpaid. With improved organization, with an extended sphere of activity, with more tangible evidence of progress, an ever increasing number of medical practitioners will be required. Success depends primarily on efficient work and efficient work is performed only by the ablest hygienists. The laboratory and the field need the best-trained, scientific minds and the keenest investigators. It is probably impracticable to demand that the public health worker should command incomes as high as those of a successful private practitioner. But unless the public recognizes the real value of this preventive work and is prepared to offer adequate salaries to the experts holding disease at bay from the community, our dreams of reform and of rapid advance will never reach the stage of realization. The remuneration of public health medical officers must be revised from

A to Z. A prosperous commercial firm finds it economical to pay its manager a handsome salary. The State has greater responsibilities toward its shareholders than any business undertaking. Only a very skilled and highly trained medical practitioner is competent to direct the health destinies of a whole country. To offer him a paltry salary, a salary which a commercial man of exceptional ability would scorn to accept, is an unsound business proposition. The world pays the buffoon who is prepared to perform comic antics for the hollow amusement of a picture, theatre or variety hall spectator, sums which are fabulous when compared with the salaries of the man who is responsible for the health of the nation. It is the policy of this *Journal* to attack the Governments of Australia until the permanent heads of the departments dealing with preventive medicine are paid at least £4,000 a year. If the work is well done, no one could fail to see that the policy of paying reasonable good salaries is economical and sound. The increase must be extended to all whose services are skilled.

The young graduate of to-day must equip himself for the work that should have been developed long ago and that certainly will be attempted in the not distant future. The object of the series of articles and of this discussion is to indicate to the young graduate that in the public health services there is an opportunity for acquiring such expertness that when the reform comes, he or she will be competent to take an important part in the elimination of preventible diseases from Australia. No work could be more important.

THE BRITISH MEDICAL ASSOCIATION.

The objects of the British Medical Association are the promotion of medical and the allied sciences and the maintenance of the honour and the interests of the medical profession. In the original constitution, as drawn up by Charles Hastings, the founder of this Empire-wide organization, the words "honour and respectability of the medical profession" were used. The elision of the word "respectability" in favour of the word "interests" was effected, not because there was no need to remind medical practitioners that they should ever preserve "decent appearance and seemingly good character," but because the substituted word embraces this conception and much more. The British Medical Association was created to meet an urgent need. It has fulfilled its function to the full for 89 years and will continue to do so for many years to come. It is widely held that there is no essential difference between the British Medical Association and a trades union. Those who believe this, have misunderstood the position and are unaware of its constitution. Medicine is one of the learned professions. It is not a trade and the moment a practitioner converts his calling into a commercial undertaking, he scatters to the four winds the ideals on which Charles Hastings built up this great institution and inflicts irreparable injury to his profession. The medical practitioner exists professionally for the benefit of the community. His knowledge, skill and experience have been acquired under privileged conditions in State institutions for the specific purpose of combating disease and healing the sick and injured. The relations of the medical practitioner and his patient are not those of seller and buyer. A doctor's first consideration is the welfare of the citizen who trusts him implicitly. There are many who abuse this relationship by accepting the help of the practitioner in the hour of need and neglecting to discharge their financial obligations to him after recovery. Again, the concessions which medical practitioners are prepared to grant persons of small means, have been the source of endless trouble. Individually the medical practitioner cannot safeguard his economic position and at the same time preserve the dignity and status of his profession. It needs a carefully planned, well administered and powerful organization to manage these affairs. The British Medical Association with its traditions, its practical ideals and its adequate machinery serves the medical profession as no other organization has hitherto served it. The fact that the Association is incorporated under the *Companies Act* as a company conducted not for gain, with no power to coerce its members, to levy funds for the purpose of compensation for losses incurred by members through obeying the behests of the Councils or to utilize its funds for other trade union purposes, should suffice to place it beyond criticism of the kind indicated. The Memorandum limits and specifies its field of activity, firstly toward the advance-

ment of knowledge and, secondly, toward the maintenance of high professional ideals.

Within recent years various movements have been started to sever the ties which bind the medical profession in Australia to that of the mother country. Quite recently the demand for greater elasticity of powers and for more complete autonomy on the part of the Australian Branches has culminated in the institution of steps for the modification of the machinery of the Association. This matter will receive detailed attention on another occasion. To those who are about to enter the medical schools and to those who have just completed their university courses, we would offer the advice to refuse the counterfeit and demand the genuine. The British Medical Association stands on a reputation of many years. Governments recognize the wisdom of its counsels and the reasonableness of its claims. It is an Empire organization with its central government in London, just as the Empire itself is. No more perilous, no more ungrateful, no more futile proposal could be put forward than that of the formation of an Australian Medical Association to take the place of the British Medical Association. With the whole weight of its 22,000 members to rely upon, with the title of the society a phrase to conjure with in any part of the British Empire, with more than an implied identity of aims, objects and methods of its constituent Branches, the British Medical Association offers to its members advantages that no other organization could hope to provide.

No medical practitioner can afford to stand outside this great society. A few, to their discredit, are ineligible for membership. Every young graduate should ponder carefully on the significance of this ban. It means that the member has proved that he has no care for the honour and interests of his profession, that he has failed to attain the "respectability" which Charles Hastings bade us to preserve as something sacred. Let each young practitioner enter the fold and trust the well-considered findings of the wisest practitioners of the past century to guide him throughout his professional life.

Medical Education in Australia.

Three of our universities offer a technical education in medicine to students. The establishment of a medical faculty and school at the University of Queensland is under consideration. Certain difficulties have to be overcome, but it may confidently be anticipated that the fourth medical school will be in existence within a few years. The oldest of the three existing schools of medicine is that of the University of Melbourne. It was established largely through the personal efforts of George Britton Halford in 1864. The school in the University of Sydney was founded in 1883. It stands to-day a great monument to the late Thomas Anderson Stuart. The Medical School of the University of Adelaide is one year younger than her sister school in Sydney. This school too owes its present development to one man, the late Edward Charles Stirling. These three schools provide education for an aggregate of about 1,800 students. At the present time approximately 125 students graduate in medicine in the Australian universities each year, including 60 in Sydney, 50 in Melbourne and 15 in Adelaide. We claim that the common custom of Australian citizens to send their sons and daughters to Great Britain for their medical education is no longer necessary nor expedient. The medical education provided in the three schools of medicine at our own universities compares favourably with that available at the older universities of the mother country. If the money spent in sending boys and girls to the other side of the world for this purpose could be transferred for our own medical schools, many of the difficulties with which we have to contend, would disappear.

THE MEDICAL SCHOOL AT SYDNEY.

The University of Sydney offers three medical degrees: M.B., Ch.M. and M.D.. The Australasian Medical Congress, Brisbane, 1920, recommended the substitution of a qualifying degree in surgery in the place of the existing degree of master of surgery and the establishment of an advanced or higher degree in surgery. The Faculty of Medicine is at present considering the matter. There is reason to anticipate that in the near future the degree of bachelor of surgery will be offered in the place of the Ch.M. degree and that the advanced degree of master of surgery will be instituted. This would bring the three schools into line.

The curriculum stands at present at five years and one term. As a result of a conference of representatives of the three medical faculties held in Sydney in September, 1920, it was resolved to extend the curriculum to five years and two terms. The subject of the revision of the medical curriculum is at present under consideration.

Admission to the medical school is dependent on the passing of the matriculation examination at the University or of the Leaving Certificate Examination of the Department of Public Instruction of New South Wales, or on the production of evidence of having gained admission to other approved universities. The subjects required are English, Latin, mathematics and one of the following, French, German or Greek. The medical course begins in the Lent term. During the first year the subjects studied are physics, chemistry, botany and zoology. An examination is held at the end of the year for the purpose of determining whether the student has acquired sufficient knowledge to enable him to pass on to more advanced work. In the second year the subjects of anatomy and physiology are begun. These studies are continued through the first and second terms of the third year. The student is required to add pharmacology to anatomy and physiology in the third year. A test examination has to be passed before the student proceeds to his clinical education. In the third term of the third year, he receives instruction in surgery, pathology, bacteriology, therapeutics, pharmacy and *materia medica*. In the fourth and fifth years he studies medicine and surgery and spends the greater part of his time at the hospital to which he is attached, either the Royal Prince Alfred Hospital or the Sydney Hospital. Practical and theoretical instruction in obstetrics is given both at the University and at the two hospitals for women. Lectures on gynæcology, medical jurisprudence and public health are delivered to students in their fifth year. Facilities are also given for the study of psychological medicine, otology, rhinology, laryngology and ophthalmology. The final examination for the M.B. degree takes place in March. The degree of Ch.M. is granted with-

out further examination on the payment of an additional fee of £10.

The total cost of medical education at the Sydney University is about £300. In December, 1920, the Senate of the University determined to increase the fees of students by approximately 50%. The term fees for medical students were increased from £132 6s. to £196 10s..

The special arrangements for advanced or post-graduate study are now under consideration. Reference to this subject will be found in another part of this issue. A course is held for candidates for the diploma of public health. This course includes six months' practical instruction in chemistry, physiological chemistry, bacteriology and parasitology, six months' instruction in public health administration and three months' attendance at a hospital for infectious diseases. The examination is divided into two parts. The candidate is not eligible for this examination until twelve months after he has obtained registrable qualifications in medicine, surgery and midwifery.

The degree of doctor of medicine is granted to medical practitioners of at least two years' standing after they have satisfied the Faculty that they possess sufficient knowledge in the various subjects of the medical curriculum. Candidates for the degree are required to present a thesis and, if necessary, to defend the views expressed in this thesis.

There are five affiliated colleges connected with the various religious denominations, at which medical students can reside. The fees and other particulars can be ascertained from the wardens of the colleges.

THE MEDICAL SCHOOL AT MELBOURNE.

The qualifying degrees of M.B., B.S. and the advanced degree of M.D. and M.S. are granted at the University of Melbourne.

The conditions of admission to the Medical School are evidence of having passed the School Leaving Examination in English and three other subjects or of being a graduate in arts or an undergraduate of not less than two years' standing in science. Latin is no longer a compulsory subject of the entrance examination.

The medical curriculum is spread over five years. Arrangements are being made for a prolongation to five years and two terms. In the first year the subjects are chemistry, natural philosophy and botany, comprising Division I.. Pass and honour examination in these subjects are held in November, with supplementary examinations in March for students who fail to pass. In the normal course of events the student passes into Division II. in his second year. The subjects include anatomy and physiology. As at the University of Sydney these subjects are taught for five terms. The examination in Division II. takes place in August of the third year. Re-examination is not permitted earlier than one year after a failure to pass. The student who has not failed in either of the previous examinations, passes into Division III. at the beginning of the third term of the third year. The subjects of this Division are pathology, bacteriology, *materia medica* and pharmacy, hygiene and therapeutics. Regional and applied anatomy are also included. An examination in each of these subjects is held in August of the fourth year. Re-examination is required in any subject when the student fails to pass. He cannot pass into the Division IV. until he has passed in all the subjects. Division IV. comprises medicine, surgery, military medicine, forensic medicine and the special subjects (ophthalmology, otology, rhinology, laryngology, psychiatry, anæsthetics, vaccination and medical ethics). The clinical instruction is given at the Melbourne, the Alfred and the Saint Vincent's Hospitals.

The degrees of M.D. and M.S. can be taken two years after graduation. They are granted either after examination or in the case of the medical degree after the presentation of an original thesis with a general examination in medicine. The examinations are held in March of each year.

The Faculty of Medicine grants diplomas in public health and in tropical medicine. For the former, bachelors of medicine and surgery of one year's standing or persons qualified for registration as medical practitioners in the United Kingdom of one year's standing must produce evidence of having completed the prescribed course extending over a period of not less than eight months before they are admitted to the examinations. Part I. and Part II. may be taken at one time or separately. The former covers the usual branches of chemistry, physics, physiology, microscopy, engineering and building construction, pathology and bacteriology in their relation to public health. Part II. includes the ætiology, diagnosis and prevention of disease, general hygiene, sanitary law and administration, vital statistics and sanitary investigation. The fee for the two parts is ten guineas. The diploma in tropical medicine is granted to medical practitioners of at least one year's standing who have passed Part I. of the examination for the diploma of public health, who have attended a special course of theoretical and practical instruction of three months' duration at the Australian Institute of Tropical Medicine at Townsville and who have passed an examination held at the Tropical Institute. The fee for the course and examination is seventeen guineas.

The ordinary student of medicine pays fees aggregating £194 16s.. Students may go in residence at one of the four affiliated colleges. The charges made at these colleges amount to £490 for the five years, being £90 for the first year and £80 for each succeeding year.

THE MEDICAL SCHOOL AT ADELAIDE.

The Medical School of the University of Adelaide is being reconstructed and additional accommodation will be available for students when the new buildings have been erected. The whole curriculum is also being recast. At the present time the course is spread over a period of five years. For some time the question of a six years' course has been favoured by the Faculty. The preliminary subjects of physics, chemistry and biology, however, are not included in the present curriculum, so that by comparison with the courses at the two other medical schools, that at Adelaide is the longest.

For admission to the medical school the candidates must have passed the Senior Public examination in five subjects, including English, arithmetic, algebra, geometry and either Greek, French or German. They must also have passed in physics, chemistry and elementary biology at the Higher Public examination or at the November examination for the University B.Sc. degree or at a special examination held in March for intending medical students.

In the first two years the subjects of anatomy, physiology and chemistry are taught, as is *materia medica*. At the end of each year the student is required to pass an examination on the work completed during the previous three terms. These examinations are held in November. Re-examination in one or two subjects is permitted in March. In the third year surgery, pathology, bacteriology, public health and preventive medicine are taken, while in the fourth year the student studies medicine, pathology, bacteriology and obstetrics. In the fifth year the special subjects, such as gynæcology, oto-rhino-laryngology and ophthalmology and therapeutics are studied. The final examination for the degrees of bachelor of medicine and of surgery is held in November.

Bachelors of medicine of the University of Adelaide of three years' standing may present themselves for admission to the examination for doctor of medicine. Under certain circumstances this period may be shortened or modified. The candidate must submit a thesis on some branch of medical study. If the thesis be adjudged to be of sufficient merit, the candidate may be exempted from part or the whole of the examination for the degree. The degree of master of surgery is granted to bachelors of surgery after they have passed the prescribed examination. A thesis may be submitted as for the M.D. degree.

The fees payable by students for the full curriculum is now £148 10s. The fees for attendance at the Adelaide Hospital and at the Children's Hospital amount to £35 4s..

BURSARIES AND SCHOLARSHIPS.

Scholarships, exhibitions, prizes and bursaries of varying monetary value are available in each of the three States.

Some of these means of assistance are obtainable by the boy or girl before entering the medical school, others are offered for excellent work at the University, while a few can be gained by young graduates. The most valuable post-graduate arrangements are those of appointment as resident medical officer to the affiliated hospitals. The award of the Rhodes Scholarship is also of great educational value. This scholarship is tenable for three years and has the value of £300 *per annum*. The incumbents of this position are given facilities for acquiring special technique in the laboratory rarely obtainable by the medical student before graduation.

MEDICAL REGISTRATION.

During the past twelve months no amendment of the six *Medical Acts* dealing with registration has been introduced. The *Medical Act Amendment Act (Tasmania), 1920*, has nothing to do with the conditions of registration. Consequently the information given in the Education Number last year remains unaltered. We reproduce the information below. We still suffer under the disadvantage of want of uniformity and absence of interchangeability of registration between the several Australian States. The Federal Parliament has no power to introduce legislation dealing with medical registration and at present there are no signs of willingness on the part of the State Governments to surrender their sovereign rights in this regard. A medical practitioner is therefore required to secure registration in each State in which he may wish to practise, even if it be for a short period.

Fees for Registration.

In Victoria a fee of five guineas is required to be paid on application for registration. A further fee of five shillings is charged for the registration certificate.

In South Australia there is an annual registration fee of one guinea. Medical practitioners, however, may pay the sum of five guineas either at the time of registration or subsequently as a commutation of all renewal fees.

In Tasmania there is a registration fee payable of three guineas.

Qualifications for Registration.

It will be seen from the following that there is no uniformity in regard to the qualifications entitling medical practitioners to be registered in the several States. For the sake of clearness the provisions contained in the six Acts are set out in tabular form.

The following persons are entitled to be registered in the respective State:

New South Wales.

(*i.*) Graduates of Australian universities.

(*ii.*) Graduates of universties in the United Kingdom.

(*iii.*) Diplomates of the recognized medical corporate bodies in the United Kingdom, entitled to registration in the United Kingdom.

(*iv.*) Persons who are or have been appointed medical officers in His Majesty's sea or land services.

(*v.*) Persons entitled to practise in a foreign country which has entered into reciprocal arrangements with Australia in this regard; provided that they have passed through a course of study of not less than five years' duration.

(*vi.*) Persons who have passed through a course of study of not less than five years' duration in a foreign country and are entitled to practise in that country, and who pass an examination prescribed by the Senate of the University of Sydney.

No person who is a German or Austrian subject, or who possesses a German or Austrian degree only, can be registered.

Victoria.

(*i.*) Graduates of the Australian universities.

(*ii.*) Persons who have passed through a course of study of not less than five years' duration in a British university, college or body, or in any foreign university, college or body, recognized in that country, and who possess a diploma or degree entitling them to practise in that country, provided that the same arrangements obtain in that country for graduates of the University of Melbourne.

(*iii.*) One person holding the qualifications of the Boston Homœopathic University and College or of the New York Homœopathic Medical College and Hospital may be registered each year.

Queensland.

(*i.*) Graduates of the Australian universities.

(*ii.*) Persons who have passed through a course of study of three years' duration, who have passed the examination prescribed in the country in which they have studied, and who are entitled to registration in that country.

(*iii.*) Persons who are or have been duly appointed medical officers in His Majesty's sea or land services.

South Australia.

(*i.*) Graduates of a university in Australia or New Zealand.

(*ii.*) Persons registered or entitled to be registered in the United Kingdom.

(*iii.*) Persons who have passed through a course of study of five years' duration in a foreign country, provided that the standard is not lower than that recognized in South Australia, and who have received a degree or diploma and are entitled to be registered in that country, provided that equal rights are granted to persons registered under the South Australian Act in that country.

Western Australia.

(*i.*) Graduates of the universities of Australia.

(*ii.*) Persons entitled to registration in the United Kingdom.

(*iii.*) Graduates of British or foreign universities who have passed through a course of study of not less than three years' duration.

Tasmania.

(*i.*) Graduates of all British universities.

(*ii.*) Persons entitled to be registered in the United Kingdom.

(*iii.*) Persons who are medical officers in His Majesty's sea or land services.

(*iv.*) Graduates of a medical college of Class "A" in one of the State of America, provided that they have passed through a course of study of four years' duration and have received a degree or diploma from that college and provided that they hold a certificate or licence entitling them to practise in one of the States of America.

MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

There are few things of greater importance to the recently qualified medical graduate than the recognition of the principles on which medical ethics are founded and the proper evaluation of the good opinion of his colleagues in the profession. Many a career is wrecked at its start through ignorance of the standards of ethical and professional behaviour. No medical practitioner can afford to be ostracized by his professional brethren, no matter how great the immediate financial gain. There are men whose conduct has removed them from the pale, because they have defied the rules which have been drawn up for the purpose of preserving the honour and dignity of the medical profession and for the greater usefulness of its members to the public. Some of these men gain a temporary financial advantage, but sooner or later their isolated position and the fact that they have done damage to the reputation of their profession result in their downfall. There is one great school of proper conduct in a professional sense: the British Medical Association. We therefore urge all to apply for membership immediately on graduation. In the case of the New South Wales Branch undergraduates in medicine can be elected "honorary associates" without any financial obligations. They enjoy certain priviliges within the Branch and arrangements have been made for these "honorary associates" to obtain the *The Medical Journal of Australia* at a reduced subscription rate. We understand that the Victorian and South Australian Branches are considering the advisability of introducing a similar arrangement for medical undergraduates of the Universities of Melbourne and Adelaide respectively. If these arrangements are completed, *The Medical Journal of Australia* will be available for them at the reduced rates.

Membership of the British Medical Association follows on election after nomination by members. The subscription varies in the different Branches. In the New South Wales Branch the members admitted within three years of graduation pay three guineas a year. Practitioners who have retired from active practice or who have reached the age of 75 years pay the same sum. Permanent whole-time medical officers of the various public services pay four guineas. All other practitioners pay five guineas.

In the Victorian Branch junior members are required to pay a subscription of two and a half guineas, country members are required to pay three and a half guineas and town members are required to pay four guineas.

In the Queensland Branch the subscription of members within five years of graduation is three guineas. For members in the country it is £4 15s., while for members in the metropolitan area of Brisbane it is five guineas.

In the South Australian Branch, metropolitan members pay a subscription of £4 5s., country members pay £3 15s. and graduates of the Adelaide University of less than three years' standing £3 3s.. These subscriptions include the right to use the University Library.

In the Western Australian Branch there is a flat subscription rate of four guineas.

The annual subscription in the Tasmanian Branch is £4 4s..

MEDICAL STUDENTS' SOCIETIES.

When the medical freshman proudly marches to his university on the first day of term his imagination has already transported him into a motor car (Rolls Royce or Ford, according to the span of his ambitions), whence he returns the salutes of the citizens (less fortunate pedestrians) who watch him flash by on the itinerary of his daily rounds. Or, perchance, he sees himself an "honorary" in a great public hospital on whom wait bevies of idolizing nurses and sweet probationers. The mist of this fair dream is soon dissipated into intangible air. He finds himself dissecting a sting-ray whose fragrance is not redolent of the rose or furnishing a very doubtful proof of Avogadro's law. Nothing medical in these; even a glimpse of the dissecting-room, where man reclines in place of the frog, is denied to him.

To band medical students together from the first to the final years, to keep the far distant goal in view and to foster *camaraderie*, not only between student and student, but between student and graduate, medical students' societies exist in connexion with each of the medical schools. It is not compulsory to join these organizations—not compulsory, that is, in the sense that the warden of the university sends you a polite note that you must pay your fees or discontinue those *séances* of more or less mythical value which are dubbed lectures. But every self-respecting undergraduate will join sooner or later and the wiser and more public-spirited he is, the earlier he will join. At the meetings he will rub friendly shoulders with his fellows of other years, he will hear from practising members of the profession many addresses of practical interest, interspersed with medical wit and humour, and just a few which are oppressively dull, and at the annual dinner, always the most popular function of the year, he will see in their happiest mood the good fellows of medicine.

The Sydney University Medical Society was founded in 1886 by the late Sir Thomas Anderson Stuart. Sixteen students joined in that year. The objects of the Society, as set out in the Rules, were to provide a common meeting ground for teachers, graduates and undergraduates, to further the interests of the Medical School and to develope scientific knowledge and general culture.

In the year 1894 the Society boasted of 55 members and in 1895 it undertook to publish a supplement to *Hermes*, the journal of the University, which then, as now, had degenerated into the stodginess of mid-Victorian respectability under the religious influence of the Arts men. Having given, without any appreciable result, a nine years' lesson to the editors of *Hermes* on the way to edit a readable journal, the Society, in 1904, created a publication of its own, the *Sydney University Medical Journal*, a comparatively bulky specimen of journalism, which appeared annually. Owing to the insidious machinations of the Philistines, the journal became alarmingly respectable in the course of a few years, but in 1916 it was heroically rescued from perdition and resumed its present light-hearted and irresponsible character.

All graduates and undergraduates of the Sydney University are eligible for membership. In addition, membership is open to any medical practitioner whose registered qualifications are recognized by the University. Graduates may become life members on payment of one guinea and, if the banking account will permit it, payment of a further guinea will bring the *Journal* (now published twice a year) to his door for a period of four years. The membership subscription for senior undergraduates is seven shilling and sixpence and for junior undergraduates five shillings.

The Medical Students' Society of the University of Melbourne is a very energetic rival of the Sydney organization. It was founded "to foster a more cordial understanding and a closer relationship between medical students and to advance their knowledge and further their interests generally." Membership is open to any matriculated medical student of the Melbourne University. The subscription is five shillings and, though it includes the subscription to the *Speculum*, an entertainment tax is not demanded. The *Speculum* appears thrice a year. But for a minute skull and cross-bones, the cover might reasonably be suspected of concealing the mild gentility of a Sunday-school magazine. On glancing at the interior this illusion vanishes. We tremble to think of the number of editors who have braved the wrath of the University Council and preferred the sad fate of rustication to any wincing of the undergraduate pen. The *Speculum* is nothing if not free. Occasionally a dull story passes the editorial threshold and slips into print, but, as a result, the editor shakes on the editorial throne, so justly wrathful are the subscribers.

The Society has arranged with the Women's Hospital for a voluntary course in obstetrics in the out-door department, so that members may have the advantage of attending women during their confinements under conditions approximating those of private practice. The Society has obtained permission from the authorities to allot groups of students for work in special hospitals. This means that members of the Society have distinct advantages over other students in regard to special clinical work.

Any member of the Society or qualified medical practitioner who pays the sum of five guineas may be enrolled a life governor by vote of the members at the annual meeting. The President and Vice-Presidents are required to be members of the Victorian Branch of the British Medical Association.

The Adelaide Medical Students' Society was formed in 1889 with an original membership of 24. The objects of the Society are "to further the interests of medical work among students and to promote intercourse among its members." Undergraduates of the University of Adelaide and graduates of any recognized university are eligible for membership. The undergraduate right nobly levies on himself an annual subscription of ten shillings, while the graduate is mercifully admitted to membership for five shillings. There may be some subtle design in this, but we are unaware of it. Payment of three guineas secures life membership. Meetings are held monthly from April to September, while the annual meeting takes place in March.

The Society publishes a journal with the dignified title of the *Adelaide Medical Students' Review*. It appears at least twice a year. As might be expected in the city of culture and cathedrals, this little journal has a more becoming dignity than its fellows of Sydney and Melbourne. And this is as it should be. The *Review* is a splendid little production and is edited in very capable fashion. The first number was published in 1890.

At present the Society boasts about 100 members. Each year the members invite the professors and lecturers of the University and the members of the honorary staff of the Adelaide Hospital to a little repast, where good digestion waits an appetite. "What is the odds," said old Dick Swiveller, "so long as the fire of soul is kindled at the taper of conviviality and the wing of friendship never moults a feather"; and this is the spirit of the Society. May it and the similar Societies of the two big cities flourish and preserve to themselves the secret of perpetual youth!